

MARINE RECORD

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SUBMARINE TELEGRAPHING WITHOUT A WIRE.

A young boatswain of the Danish navy, P. Sorensen, has constructed a telegraphic apparatus by which it is possible, without any direct line from land, to communicate with a ship at a certain anchor ground. An electric battery is placed on the shore; one pole is in contact with the water or moist earth, while the current from the other pole, through a telegraph key and a revolving interrupter is conducted to a cable, which is laid out to the anchor ground and placed round the latter in a coil with a diameter of 1,000 to 1,200 feet.

On board the ship, which is situated at the anchorage ground or a little outside the coil, there is a small solenoid with which the telephone is connected. When you give any communication from land through the telegraph key, a bell sounds on board the ship. They go to the telephone and get the intelligence you give, by means of longer or shorter signals, based, for instance, on Morse's alphabet. The apparatus may also be constructed in such a way that they will be able to answer you from the ship. Nay, the inventor thinks he will succeed in getting so far that you can simply speak to one another as in a common telephone. Mr. Sorensen carried on his experiments for two years before he reached a satisfactory result. Now he has been permitted to establish such a telegraph between the lifeboat at Tyboron and the anchorage ground of the steamship Vestkysten, so that people on land may always be in communication with the ship.

The Danish government, however, wanting to be fully satisfied that the ship may always know when you commence telegraphing from land, has given orders to construct the apparatus in such a way that an electric arc lamp is automatically lighted on the shore opposite to the shore anchorage ground at the same time as you commence telegraphing. It is to be raised automatically, too, to the top of a pole and throw its light over the ship.

Two vessels at sea will be able to telegraph to one another when they both have a solenoid on board. The distance in which they will be able to do so depends on the length of the wire and power of the electric current. Flag signals between men-of-war in time of war may be easily discovered by an enemy—it is now not necessary to use them.

Other nations have in vain spent large sums of money to reach the result which has now been attained by this energetic and clever boatswain, who is essentially a self-taught man, and therefore deserves great credit among scientific electrical experts.

EFFICIENCY OF ONE POUND OF COAL.

The value of one pound of coal at different epochs of steamship evolution, as given by Mr. A. J. McGinnis, president of the Liverpool Engineering Society, has been as follows: In 1840, a pound of coal propelled a displacement weight of .578 ton 8 knots; but the earning weight was only one-tenth of this, 90 per cent of the displacement representing the hull, machinery and fuel. In 1850, with iron vessels and screw propeller, a displacement weight of .6 tons was propelled 9 knots by a pound of coal; but the proportion of cargo had risen to 27 per cent or .16 ton. In 1860, with high boiler pressure and the surface condenser, .82 ton displacement was propelled 10 knots and the cargo was 33 per cent or .27 ton. In 1870, after the compound engine had come into use, 1.8 tons displacement was propelled 10 knots, and here the cargo formed 50 per cent of the whole, being .9 ton. In 1885 there were two classes of freight boats. One of these, the "tramp," propelled 3.4 tons displacement 8½ knots, with 60 per cent, or two tons of

cargo; at the same time the enormous cargo steamers of the North Atlantic were driving a displacement of 3.14 tons 12 knots, with 55 per cent or 1.7 tons of cargo. On the modern express passenger steamers, the cargo weight is down to .09 ton per pound of coal.

AN ISLAND DOMINION.

A wealthy Frenchman named M. Menier, has purchased the island of Anticosti at the entrance to the Gulf of St. Lawrence.

Two attempts have been made within the last twenty-five years to colonize this island—the first by Colonel Forsyth, an Englishman, which involved himself and many of his friends in financial ruin; the second by Dr. Stockwell, another Englishman, which was also a bad speculation and terminated in the sale of the island recently to M. Menier, who intends to hold it as a game reserve and to stock it with animals for the chase and also fur-bearing animals; in fact, to make it a hunter's paradise. At the same time, M. Menier has an eye to business and intends to colonize the island and turn to account the large forest of good timber which a survey he caused to be made has brought to light on the northern side of the island. It is said that M. Menier has a taste for founding colonies, as he has already two which pay a fair interest on his investment. These colonies are in South America and Algeria.

The island of Anticosti has been used for years as a fishing place by the cod fishermen from Gaspe Basin, Douglstown, and other places on the north shore of the Gulf of St. Lawrence. These people have now been forbidden to fish on the island, unless they are willing to pay fees to M. Menier, which are large enough to be practically prohibitory. In addition to this, M. Menier has ordered out of the 3-mile limit a Nova Scotia fishing schooner, upon the ground that he bought the 3-mile limit with the island.

RADICAL MEASURES.

Word comes from the head of the lakes that as a result of the sinking of the twin-screw passenger steamer North Land, the Northern Steamship Co., her owners, have discharged every member of the engineer's staff, from the chief down to the sixth assistant. There is considerable comment being made about this sweeping edict from the management, as the men say that they were not responsible in the least for the sinking of the vessel. It is stated from the company's offices that a valve cap was left open, but just how it was done or why is a mystery not yet cleared up. Gross carelessness at the very least, was alleged by the officials of the company, and to make certain of striking the offender, they have discharged every engineer on the ship, although at the time of the occurrence the men were laid off for the winter and were living at a Duluth hotel.

FOUNDERED ON LAKE ERIE.

The small steamer Harry Cottell, bound up with coal, foundered at Bar Point at noon Tuesday. The steamer Gettysburg took the crew off the boat and transferred them to the Kearsarge, which landed them at Amherstburg. The steamer lies a half mile east of the channel and is out of the way of passing vessels. The Cottell was owned by Alexander Anderson, of Marine City, and was insured for \$1,500 with the Detroit Fire and Marine Insurance Company.

The Cottell foundered so quickly that the crew, consisting of five men and one woman, barely escaped with their lives. They lost all their clothing, and the United States consul at Amherstburg purchased an outfit for them. The steamer lies in 20 feet of water.

LARGE ATLANTIC TONNAGE.

There has just left the stocks at Belfast, Ireland, and successfully launched this month, a steamer for the Hamburg-American Line, which will be the largest vessel in the world, and with one exception the largest ever built. The largest steamers now in service between American and European ports are those of the White Star and Hamburg-American Lines. They can carry between 7,000 and 8,000 tons of cargo. The measurements of the new steamer, which will be known as the Pennsylvania, are 586 feet length, 62 feet beam and 42 feet depth. Her displacement will be 30,000 tons, and the dead weight carrying capacity is estimated between 13,000 and 14,000 tons or about 20,000 tons weight and measurement. The Pennsylvania will be equipped with quadruple-expansion engines, and the combined horse-power will be 7,000 tons. The new craft is expected to develop a speed of from 14 to 15 knots an hour. In addition to large freight capacity she will carry 350 cabin and 1,000 steerage passengers. A similar steamer is being built in Germany.

The only craft larger than the Pennsylvania ever floated was the famous Great Eastern, built in 1858 at Milwall-on-the-Thames. The dimensions of the Great Eastern were: Length, 691 feet; beam, 83 feet; depth, 42 feet. She was registered as being of 31,160 tons displacement, with a dead weight capacity of 18,915 tons.

APPRECIATED IN THE EAST.

It has been a dull year for New England shipyards, but in some other sections of the country the new report of the Bureau of Navigation shows that the industry has had a reasonably successful season, in spite of the severe depression which fell upon it with the first income of the Cleveland administration.

Taking the country at large, the total productions of American shipyards for the year ending June 30, 1895, was 709 vessels, with an aggregate tonnage of 204,000, against 682 vessels of 133,000 tons constructed in the year preceding. This handsome increase is due chiefly to active building on the Great Lakes for the wheat, coal and ore trade, which of late years has assumed immense proportions. As most of this carrying is between one American port and another, it is a protected industry, foreigners being absolutely debarred by our laws from participation in it. American skill and ingenuity have, therefore, had a fair field on the lakes, and the result has been the creation of a vast modern freighting fleet on those unsalted seas, which probably has no equal in the world in the speed, cheapness and all-around efficiency of its service.

It is a striking indication of the rapid abandonment of wood as a shipbuilding material that more than one-half—to be exact, 106,900 tons—of the 204,000 tons of shipping built in the United States last year was of steel construction. Not only steamers, but tugs and barges are now very largely built of steel, and the next natural step will be its application in the heavy sailing freighters in our coastwise trade. Some of the later four-masted schooners are of upward of 1,500 net tonnage and about 250 feet long. The rigidity of frame, which the use of steel gives, is a valuable quality in vessels of these great dimensions.—Boston Journal.

NOTICE TO MARINERS.

Notice is hereby given that the Waughoshance Sixteen-Foot Shoal second-class can buoy has been dragged out of position. It is reported to be about 1,000 yards to the east of its former position. The buoy will be replaced as soon as possible. Respectfully,

COMDR. J. H. DAYTON, U. S. N.,
Inspector Ninth Light-House District.

NEWS AROUND THE LAKES.

DETROIT.

WANT SETTLED POLITICS—PASSENGER RATE WAR—VESSEL BROKER THINKS SILENCE IS GOLDEN.
Special Correspondence to The Marine Record.

DETROIT, September 30.

All of the Thomas Adams' fleet are now laid up except the Thomas Adams, and unless a marked change occurs, she will follow her mates to the dock. Never were men more genuinely anxious to see sound money and a settled state of affairs, than the hard-pushed vessel owners of this city. In speaking of this season Mr. Adams said: "While I do not think we have lost anything this year, because we made some money early in the season, still I do not think we have made a dollar for all our work this year. We have some \$12,000 insurance to pay, and that eats a great hole in small earnings. The vessel business is very discouraging such seasons as this."

On Monday morning the steamer State of Michigan started for Cleveland with the City of the Straits, but only went as far as Pigeon Bay. A heavy sea was running, and the captain deemed it best to shelter her, returning to Detroit Tuesday morning. His judgment is to be commended.

That enterprising passenger department manager A. A. Schantz, of the D. & C. Navigation Co., has withheld all of his efforts until late, in managing the war between the Drummond line and the D. & C. The City of the Straits now forms another line, called the "People's Popular Price Line," which leaves Detroit every Monday at 9 a. m., and every Tuesday, Thursday and Saturday at 9 p. m. for Cleveland, returning, leaving Cleveland an hour earlier, on alternate days; for the sum of \$1, including berth; and on Saturdays \$1 round trip, with berths included both ways. The new line made partial arrangements to leave the dock at the foot of First street, occupied by the Northern Steamship Co., but on attempting to close the contract, it was found that the new boat would have to act on the convenience of the Northern Steamship Company's freight boats, and were not sure of having their dock free to use from 7 till 9 p. m. on the days she left Detroit. For this reason it was decided to run her from her old dock, foot of Wayne street. She will run all fall, and probably all spring, at the present rates. Next week the regular rates of the City of Detroit and City of Cleveland will be renewed as heretofore. The purpose in establishing the new line was to make competition yet cheaper and sharper against the D. & C. Line.

L. C. Waldo in speaking to your correspondent about freight rates, said: "All the grain that is now intended for shipment this fall, would go if the lake freight was 5c per bushel. It is a needless pity that boats are carrying for what they are now; all they need to do is to lay still, and the rates will rise of themselves."

Waldo A. Avery has removed his office from the Parker and Millen building, at the foot of Griswold street, to the 12th floor of the new Majestic Building. The new offices will give their occupants a fine view of the city.

The schooner Crosthwaite will receive her repairs at West Bay City. Temporary repairs were made by Diver H. W. Baker, who personally superintended the work of raising her in Lake St. Clair.

C. A. Chamberlin, one of the quietest and steadiest of Detroit vessel brokers, recently said to THE RECORD, when asked for items regarding business: "I make it a rule to say nothing. In times like these, when every one is looking for something to do, and ready to pick up anything that comes in view or is heard of, it is the still hunt that is most profitable." In case the deal goes through, THE RECORD will shortly publish an account of a contract, of great importance to vessel interests, in which Mr. Chamberlin will be an interested party.

MCC.

CHICAGO.

SHIPYARD NOTES—LAYING UP BOATS—THE WEEK'S CHARTERS AND ARRIVALS.

Special Correspondence to The Marine Record.

CHICAGO, September 29.

At Miller Brothers' shipyard the steamer Madagascar was in dock for fastening loose wheel and to have a leak stopped. The steamer Canisteo is in dock for a new wheel.

At the Independent Tug Line's floating dock the steamer Viva was in dock for repairs to stern bearing and recalcing. The tug Protection is in dock for a rebuild.

The passenger and freight steamer A. B. Taylor, which has been running between Chicago and Michigan City during the past season, went off that route on Wednesday and will go to Grand Haven to be placed in winter quarters.

The passenger and freight steamer Mabel Bradshaw, which has been running between Chicago and Pentwater and Whitehall during the past season, went to Whitehall this week to be placed in winter quarters.

There was 33 entries into this port on Sunday last comprising 22 steam vessels and 11 schooners.

The Goodrich Transportation Company's side-wheel steamer Muskegon became a total wreck in one of the

Milwaukee Dry Dock Co.'s docks last week, she having fallen over on her starboard side when the dock was pumped out. Her keel and bottom is broken in three or four places forward and in one place aft, where some of the keel blocks went up through her. The Muskegon went into the dock to have two holding down bolts tightened. The Goodrich Transportation Company sent H. B. Burger and Frank Kirby, shipbuilders, and Captains David Cochran, J. J. Rardon and Samuel Neff, to Milwaukee, to see the Muskegon in the dock, as experts on their behalf, and view the damage and consider as to the cause of the accident. The Muskegon was built in 1871 at Manitowoc; her dimensions are, 193 feet keel, 29 feet beam, 12 feet hold, tonnage 618 gross, 485 net. The Goodrich Co.'s steamer Sheboygan which has gone into winter quarters at Manitowoc has been fitted out and placed on the route on which the steamer Muskegon had been running.

Captain P. Griffin tied up the steamer Charles Stewart Parnell last week in the Illinois Central Slip B, awaiting more prosperous times.

Captain John Prindville chartered the steamer Philip Minch for chipped oats and barley, South Chicago to Buffalo, 1¼c; the steamer Lansing for corn and barley to Buffalo at 1¼c.

James A. Calbeck & Co. chartered the steamers Aragon and Nicaragua, and barges Grampian and Paisley, all for corn to Kingston at 2½c.

Carr & Blair chartered the steamer Progress for oats to Sarnia, at 1¼c free of elevation; the steamer Tampa for corn to Buffalo at 1¼c; steamer Sauber for barley to Buffalo for 1¼c; the steamer Lagonda for corn to Fairport at 1¼c.

H. W. Cook & Co. chartered the steamers Fred Pabst and W. H. Wolf for corn to Buffalo at 1¼c, just before the last raise in freights.

The new Union Line steel steamer Ramapo, Captain Walter Robinson, arrived here from Buffalo, Monday, on her maiden trip to this port. She encountered some heavy weather on her voyage and behaved splendidly.

The yacht Irene, Capt. Charles Kennedy, arrived here Monday afternoon from Buffalo. She ran all day before the gale with only a storm sail set. On her arrival at one of the slips near the foot of Randolph street viaduct she collided with the dock and carried away her bow-sprit and some headgear.

The schooner Seaman broke from her moorings in slip E, at the foot of Randolph street, during Wednesday's gale and had the most hilarious old time that she ever experienced during her long career. Yachts, house and fish boats numbering about a dozen, succumbed to her ramming propensities and went under to get out of her way. The tug Fischer dropped one of her car ferry barges off the port, but brought the other two inside the breakwater all right, the third came to an anchor about two miles off and rode out the gale.

WILLIAMS.

BUFFALO.

BRISK GRAIN RECEIPTS—RAILROADS FOLLOWING THEIR USUAL FALL TACTICS—AN EXCURSION STEAMER DECAPS.

Special Correspondence to The Marine Record.

BUFFALO, September 29, 1896.

In spite of the prospective falling off in grain receipts the week's total is again a record breaker and elevators are doing a rushing business. They are beginning to fill up some, the increase of the week being about a round million bushels. This is partly on account of the falling off of canal boats and the shortage of cars, for there appears to be a demand for everything at the seaboard yet that comes in. The canal fleet is now too small for the demands on it. There have been no surplus boats for several weeks and if the demand for them to bring up coal turns out to be considerable they will be still fewer hereafter.

The package-freight lines are complaining that they are getting the worst of it in the charge for storage on all ex-lake flour that is in the warehouse more than twenty days, for the western millers will not send it forward and run the risk of having to pay the charge and the result is very little in warehouse at the time of year when everything would be filling up but for the charge. There is no prospect of a suspension of the regulation, so that the result will be empty warehouses at the close of navigation and a brisk all-rail flour trade all winter, which is perhaps what the roads want, certainly no one else desires it.

There are still a few additions to the fleet in ordinary, though the number tied up is not very considerable. Besides the boats have a way of pulling out just as they are supposed to be laid up for the season. The schooner Manitowoc did this a few days ago and the Ogemaw picked up a tow last Saturday and started for Ashland for lumber, after being here some time.

The flight of the excursion steamer Garden City last Saturday has a long story connected with it. She is owned in Toronto and it is an old-time trick for vessels that get into trouble on one side of the line to skip to the other if they can find business there. This time there is some justification for the proceedings. The Garden City is the victim of circumstances. Some weeks ago a woman with a child in her arms took a ducking in the creek at the steamer's dock at the foot of Main street, and when it was found that the woman was about to tie the boat up she skipped out. Vessel

men who know the circumstances say that the boat was not to blame. She was lying just astern of one of the Northern Line freighters, which was working her wheel to spring away from the dock and creating a fierce current between the Garden City and the dock. Just before the woman came up the gang plank the current carried the stern of the excursion boat about and detached the plank, so that all went into the water. The situation was critical, especially on account of the current. Two dockmen plunged in after the woman, but were carried away by the rushing water. A third managed to alight on the plank and before he had the woman and child safe another man had jumped in. It was a matter of both good fortune and good work that no one was hurt. There was an officer in sight on board the Northern steamer all the time, but he appears to have been rattled and the boat's wheel was not stopped till the danger was over. The only possible fault of the Garden City appears to have been that her stern was not tied fast so that she could not swing about. To counteract this the men at the gangway say they ordered the woman to stay off the plank till it was safe to come aboard. As the boat is now out of harm's reach, so long as she stays in Canadian waters, some compromise will be made no doubt, in case she ever wishes to come back.

The serious trouble of Northern Line passenger boats appear not to have been all told, for it is now said that the electric light plant of the North Land was as fractious in its way as the North West's boilers were and often left the boat in darkness without a moment's warning.

The Mills' dry-dock is patching up three lake steamers. The George T. Hope is having more work done to her than was expected, for her stern post had to be rebuilt as well as to repair her stern pipe and put on a wheel. The Monteagle had her bottom mostly out at last accounts and the St. Louis ditto.

The Anchor Line people are much pleased over the behavior of the Susquehanna since the changes were made in her machinery. It was found that she had more boilers than she needed and the removal of these and the change in the position of the others makes her the biggest carrier in the line, but leaves her a good sailer besides. She brings a matter of 3,150 tons of package freight in here and has loaded over 3,200 tons this season, at a cargo.

The cry "wait till after election" that has run the length of the lumber trade and cut off the lake business materially, does not seem to affect grain. There is a lingering hope that the election will still afford time to get in a supply of lumber. Tonawanda is at least certain of a large winter stock, for the western mill men despair of selling their cut and have gone to stacking it up there where rent is cheap. Some Buffalo yards are full, but more are rather scant.

If money was plenty there would be new work for the canal-boat yards without doubt, for there is not tonnage enough now to do the business. The canal is getting up coal to carry and considerable flour to carry down, so that it is really renewing its age to some extent.

Capt. Stevenson, who has been mate of the steamer Vance, comes back as master of the Shenandoah this week.

The Crystal Beach Steamboat Company, engaged in the excursion business at this port, does not seem to have met with the patronage which it deserved and was entitled to under the able management of the past season. The marshal libeled the Gazelle and Pearl here last week for a round sum of money on fueling account.

The heavy southwest gale of Wednesday caused the river to rise six feet and then to recede again so rapidly as to cause currents that nothing but loaded craft could move against.

The shipyards at this port have been having a busy time during the past two weeks and the dry-docks caught their full share of work putting vessels in good shape for the hard weather experienced during the fall months and towards the close of the season.

JOHN CHAMBERLIN.

CLEVELAND.

GENERAL PORT NEWS—SHIPYARD AND DRY-DOCK WORK—STORM CHARTS WANTED.

Special Correspondence to The Marine Record.

CLEVELAND, Sept. 30.

The schooner Selkirk will be placed on sale by the U. S. marshal at this port next Saturday. She has been libeled by the Cleveland Dry-Dock Co.

There is no question which way the majority of vessel owners, agents and brokers, desire the next presidential election to go. Offices inside and out are decorated with the Ohio man's picture.

Whether there is anything in the old-time belief of equinoctial storms or not the weather has sort of broken up here this week.

It was a pleasant surprise to meet Mr. H. D. Coffinberry this week. He has grown stouter and bronzed from his hearty out-door life at Rocky River. His many marine friends will be pleased to learn that he is enjoying the best of good health.

Although rumors of laying up tonnage have been floating around for the past month or so seventeen arrivals each day for a week was the record up to Monday last.

A feature of the freight market here during the early part of the week was vessels taking 20 cent coal to the

head of the lakes without having any down charter fixed as even 1c a bushel could not be had on Duluth wheat, though, of course, they might as well lay waiting cargoes there as here.

The estate of the late H. J. Webb has been recorded as amounting to \$59,000.

Mr. Luther Allen, secretary and treasurer of the Globe Iron Works Co. and ex-president of the Chamber of Commerce, arrived in the city Thursday after an enjoyable trip across the Atlantic.

The tug Sunol when taking the Wallula into Ashtabula harbor on Monday, managed to get between the lee pier and the steamer and received a \$500 crush.

The Weather Bureau offices at this port, removed from the Western Reserve, will hereafter be located in the Society for Savings Building.

The steamer State of Michigan did not reach here on Monday evening as due. Owing to the heavy weather she sheltered in Pigeon Bay. The sidewheel steamer City of Detroit came along without any casualty although bad weather was experienced.

The will of the late Capt. William S. Mack has been admitted to probate. He leaves all his property, real and personal, to his wife, Margaret A. Mack. She is appointed executrix without bond. No inventory is to be taken of the estate or appraisals made, nor is there to be any sale of the real estate. Besides his wife the deceased leaves a son, who is secretary and manager of the company, and a daughter, Anna B. Mack.

The depth of water has been fairly well maintained at this port during the season, and less trouble than ever through vessels grounding for lack of adequate dredging has been experienced.

Nearly fifty vessels, among which are some large iron and steel steamers, are now laid up here awaiting cargoes or a rise in freights.

One of the busiest men, and yet one who accomplishes more business in a business-like way during a stated period than almost any other man in the city is H. D. Goulder, Esq., counsel for the Lake Carriers' Association, and marine lawyer.

Being the only shipchandlery firm in the city, the large store of Upson, Walton & Co., River street, is always a lively spot, and it is well that the mantle of monopoly has fallen upon such righteous and capable shoulders, for, with the business conducted as at present, there will never be need of any competition at this port.

The active and well directed competition among fueling companies on the lakes this season, has proved a wholesome blessing to owners and masters, as the prices and despatch has been better for the vessel than ever before. Besides, the fueling companies are supposed to be able to stand it.

Finishing and repair work is all that is now being carried on at local shipyards. There is nothing on the stocks, the yards are fairly well cleaned up and are likely to remain so, at least until after election is over.

The following steamers were dry-docked by the Cleveland Dry-dock Co. this week: Yakima, butts calked; R. E. Shuck, for new fore-foot and 130 feet of garboard on the port side; Roumania, butts calked, searched up and bows ironed. John B. Ketcham for new wheel and tightening up rivets.

Work at the yards of the Cleveland Ship Building Co. is being pushed on the Bessemer Co.'s new steamer James Watt, and with fair weather she will be ready to turn over to her owners in about ten days. After her trial trip it is likely that she will be put into commission, if the trade outlook is a little more favorable a few weeks hence.

The long, mild summer experienced on the lakes this season has prevented the largest and best equipped dry-docks from earning anything like fair returns on the capital invested, as, outside of a blow during the latter part of May, little or no damage has been caused to vessel property, owing to weather conditions. The season, so far, has also been remarkably free from heavy collision or grounding damages. Whether this is not due, in a great measure, to the safeguards thrown around navigation by the clauses in what is known as the White "Steering and Sailing Rules," as well as the new rules enforced in the piloting of the "Soo" River, will, of course, meet with a difference of opinion; but, certainly, the fine, mild weather prevailing during the summer months, when lake traffic was at its height, has had much to do with the immunity from casualties so noticeable this year.

It is to be hoped that the attention of the Weather Bureau, and the Hydrographic Department, U. S. N., will be called to the action of the gale which swept over the lakes this week. It appears to have been a well-developed, cyclonic storm, within a rather small area. The direction is reported as blowing from the north at Chicago, north-east at Detour, east at Port Huron, and south-east at Buffalo. Other reports ought to be at hand to complete the circle, and the barometer readings, with the maximum and minimum velocities, given for each point, as a future notice and guidance to mariners, as well as others interested in lake commerce and transportation.

SWAIN.

MAY BE TRUE ENOUGH.

Capt. George McLeod, wrecking master and insurance surveyor of Buffalo, makes no secret of his admiration of a good skipper, even if he does have to make some comparisons. He is quoted as saying:

"When I went to Prince Edward Island this summer, I sailed out of New York in a fog so thick that not one of the passengers on the steamer saw a thing until we were within a hundred feet of the dock in Halifax. The course is not only crooked, but it lies through the Bay of Fundy with its heavy currents. There is a sharp turn in the bay, but we made it to a nicety and we made the whole course by exact science. The lead line was in use when we made the bottom at 100 fathoms. When we reached our destination I bought the captain a bottle of wine. The steamer was about the size of the Tioga. When I find some of our lake captains going ashore the minute they have to run a course after dark, no matter how familiar they may be with it, I am disgusted."

INLAND LLOYDS SUPPLEMENT.

Capt. D. McLeod, manager of the Inland Lloyds Vessel Register, has just issued the October supplement (No. 6) to the annual which is published solely for the purpose of effecting insurance on lake vessels under the American flag.

The new steamer Sir William Fairbairn, 3,182 net tons, built by the Detroit Dry-Dock Co. for the Bessemer Steamship Co., is given an A1 rating with a valuation of \$240,000. She was built under special survey and carries the Register's star. The City of Kalamazoo also carries the highest rating and a valuation of \$45,000. The steamer Charles Reitz is classed A2 and valued at \$15,000. Tug Island Belle, of Detroit, is classed B1 at \$1,500, and the small schooner Lena M. Neilson, of Ludington, B1 at \$3,000. The new Minnesota Steamship Co.'s new barge Magna, built by the Chicago Ship Building Co., is given the highest rating and valued at \$130,000. She is 3,125 net tons. The Bessemer Steamship Co.'s new tow barge James Nasmyth, 3,162 net tons, built by F. W. Wheeler & Co., West Bay City, was built under special survey and received the A1 rating with a valuation of the same as the Magna, viz., \$130,000. The barge A. T. Bliss has been withdrawn and is now without a class or insurance rating.

LOST ON LAKE MICHIGAN.

The tow-barge Sumatra, consort of the B. F. Arnold, from South Chicago to Fort William with a cargo of 1,300 tons of railroad iron, sprung a leak and foundered off Milwaukee on Wednesday morning, with the loss of four lives. The master, Charles Johnson, West Bay City; mate John Burback, West Bay City, and the cook Ira Purser, of West Bay City, were rescued. The names of the lost are: Arthur Burnsted, West Bay City, Charles Hemmer, West Bay City; Patrick Peterson, West Bay City; Peter Anderson, West Bay City, Mich. The foundering occurred about a mile and a half from the entrance to Milwaukee harbor, with a tugboat in close attendance, and the life-saving crew on hand, but so suddenly did the vessel go from under their feet, that the crew had little chance of being rescued in the nasty sea then running.

The Sumatra left South Chicago on Tuesday morning after waiting two or three days for favorable weather. General Freight Agent Keefe, of the Illinois Steel Co., places the value of the cargo at about \$35,000, consigned to the Canadian Pacific Railroad. It was insured for its full value with Smith, Davis & Co., of Buffalo; David Vance & Co., of Milwaukee; and C. W. Elphicke & Co., of Chicago.

The underwriters have decided on immediate salvage, and measures will be taken to secure the entire cargo before the close of navigation.

The Sumatra was built by Quelos, at Black River, O., in 1874. Net tonnage, 803, rated A2 and was valued for insurance purposes at \$18,000, at the time of her loss. She was owned by the Mills Transportation Co., Port Huron, who are also the owners of her late convoy, the steamer B. W. Arnold.

IMPENDING NAVAL CHANGES.

Among the impending changes at the top of the naval list is that of Capt. Robley D. Evans, of the battleship Indiana, who is expected to go to Washington in a week or two as a member of the Light-House Board. He will take the position vacated by Capt. John R. Bartlett, who will be detailed to sea service. Capt. Henry C. Taylor, president of the War College, will relieve Capt. Evans on the Indiana.

REPORTED BY THE LOOKOUT.

Two gas buoys have been placed by the Canadian fishery cruiser Petrel in the Pelee passage with sufficient supply of gas to last for seven weeks.

The hull of the tug C. A. Tomlinson, built at Bay City by James Davidson for B. B. Inman, of Duluth, will be towed to Duluth by the steamer Rappahannock, where she will receive her machinery.

It is reported that the Canadian Pacific steamer did so well this summer, carrying about twice as many passengers as last season, that her agent at Detroit, Cornelius Sheehy, will endeavor to have the Manitoba, a larger and more comfortable steamer, put on her route between Windsor and Port Arthur next season. There are more staterooms on the Manitoba.

The master of the schooner Badger, which stranded last week near Monaghan's landing while loading cedar, speaks in the highest terms of the able and skillful assistance rendered so cheerfully by Capt. McLennan, keeper of the Middle Island life-saving station and his crew. It is noticeable that this station always comes in for warm thanks from those in distress in that locality, and it was markedly so under its former splendid keeper now stationed at Duluth.

Capt. John Smith, master of the large steel steamer E. C. Pope, showed rare pilotage skill a few days ago by taking his steamer inside of the Middle Ground at Port Huron, and thereby avoiding the detention if not casualty with a schooner that occupied the channel. It is of as much importance these times to know where there is water as to be acquainted with the shoal spots.

Firms engaged in wrecking, salvage and towing business on the lakes say that this is proving to be one of the poorest seasons for their business within recollection. The almost total absence of storms has been the chief cause of this, but there are many others. One is that the excessive rains have raised the lake levels several inches, almost entirely doing away with the groundings in the rivers, especially between Lake Erie and Huron.

BUFFALO'S GREAT COMMERCE.

The Buffalo Courier furnishes the following condensed report of the trade of that port by lake:

During the month of September 20,252,023 bushels of grain were delivered at this port by incoming vessels, which exceeds last year's September receipts by almost 5,000,000 bushels. For the season 104,933,226 bushels of grain came forward against 64,508,722 last season up to October 1. Of flour the receipts up to date this season are 5,686,913 barrels, against 5,015,030 for the corresponding period of 1895. The receipts of grain (including flour) thus far this year are 133,367,791 bushels, against 89,583,872 bushels last year to October 1. The season's receipts of grain are the largest on record for this port, and exceed the receipts of 1893 by over 9,000,000 bushels.

Coal shipments during the month of September aggregate 337,047 tons and for the season 1,574,081 tons—an excess over last season's shipments up to October 1 by 79,900 tons.

Shipments of grain this season by canal are about double what they were last year, but are nearly 10,000,000 bushels less than in 1894.

Lumber shipments by lake are away behind last season's, but the receipts of other commodities are fairly up to the standard.

A comparative statement of the lake and canal traffic of the port is also published in detail.

A LAKE ONTARIO STRANDING.

An underwriters dispatch received at Chicago on Wednesday reports that the well known schooner, J. I. Case has been driven ashore at Bath, Lake Ontario. The seas were driving the vessel high upon the beach. The Case was bound to Lake Michigan with coal. Assistance was promptly wired for to be sent from Kingston, and D. H. Hitchcock left for the scene of the stranding to represent the underwriters' interests.

The J. I. Case is now owned by P. M. Arthur of Detroit, is still on her first letter and valued at \$1,800.

The new steel steamer City of Buffalo, owned by the Cleveland & Buffalo Line, will winter at Detroit so as to facilitate some changes that are to be made by her builders, the Detroit Dry-Dock Co.

THE OTTAWA CANAL.

(FROM THE CANADIAN MANUFACTURER.)

This is a river, lake and canal route which passes from the easterly side of Lake Huron up the French River to Lake Nipissing, from thence by canal across the high lands to Trout Lake, at the head of the Mattawan River, down the Mattawan to its junction with the Ottawa, following the course of the latter river to Lachine, and thence by Lachine canal to Montreal. The distance from the entrance at French River to Montreal is 430.76 miles, of which 29.32 miles are canal, and of this the Lachine canal already completed, forms 8.50 miles, leaving only about 21 miles of canal to be constructed.

In the annual report of the New York Produce Exchange, 1872-73, there is a voluminous paper on the different projects of rail and water communication which were then being discussed: a ship canal via Welland canal and St. Lawrence route to Montreal; a ship canal from Cauchnawaga via Lake Champlain and Hudson River to New York; a ship canal from Georgian Bay to Toronto; a ship canal from Niagara River to Lake Ontario, and from Oswego to New York; a canal from Lake Huron to Montreal, via the Ottawa River; and a moderate enlargement and improvement of the Erie and Oswego canals.

The whole of the ship canal projects are condemned as impracticable and unprofitable, because the cost of their construction involves an annual amount of interest which would largely exceed any saving in the cost of transportation that could be effected on even an extreme estimate of possible traffic; and if the total saving in freight is to be less than the interest, where is the gain? The report decides in favor of a moderate enlargement of the Erie and Oswego canals, which can be accomplished at a reasonable cost, and so as to reduce cost of transportation from Buffalo to New York by fully 50 per cent.

In discussing the Ottawa canal, the report speaks of this scheme as being the first in magnitude, and evidently anticipates danger from its competition with the traffic of New York via Erie canal. It shows that the saving of distance between Chicago and Liverpool by this route, as compared with the circuitous route via Buffalo and New York is 842 miles; and that the distance to Liverpool is 428 miles less than by the route via Welland canal to Montreal.

It is maintained by the friends of the Erie canal route, that when the present improvements are completed, wheat can be carried from Buffalo to New York, including elevating and shipping charges at Buffalo and New York, for 3c per bushel. If wheat can be carried from Lake Huron to Montreal via the Ottawa canal for the same price—3c per bushel—this route will command a large proportion of the trade, because it will be the most expeditious route, and because, especially in midsummer, the grain will be kept in better condition when carried through deep and cool waters than when transported through the shallow and hot water of the Erie canal. Can grain be carried for above rate? There is no difficulty in making the locks on proposed canal (except on Lachine portion) of sufficient dimensions to pass at one lockage a fleet consisting of a steam tug and three barges, holding altogether 180,000 bushels. One of the oldest and best informed forwarders in Canada estimates that each fleet of one steam tug and three steel barges can be constructed for \$150,000; that the trip from French River to Montreal can be made in from four to five days; and allowing for delays in loading and unloading, the round trip should be accomplished within 15 days; the expenses for the round trip, for wages, board of men, fuel and supplies for 15 days, \$1,250. Allow 15 per cent per annum on the cost of the fleet for interest on cost, wear and tear, repairs, insurance, etc., \$22,250, or allowing 14 trips in the season, is equal to \$1,589 on each round trip, which added to the \$1,250 for expenses as above, makes cost of transporting 180,000 bushels wheat \$2,834, or 1.57c per bushel. This makes no allowance for any revenue to be obtained from freights from Montreal or other points on the trip westward. On the other hand there may be slack times during the season, when the fleets are not fully occupied, and there may be occasional delays which may make the round trip longer than estimated. But, taking both considerations into account—return freights and unexpected delays—it may be fairly assumed that 1½c per bushel will fully cover cost of transportation and afford a reasonable profit on the

cost of the fleets. Allowing 1¼c per bushel to cover elevating and shipping charges at the harbor at French River and at Montreal, and for canal tolls, makes total charge for conveying wheat from Lake Huron to delivery on board sea-going vessel at Montreal, 3c per bushel. Allowing ½c per bushel for elevating at both ends of the route, this would leave ¾c per bushel canal tolls, which, with proportionate tolls on other merchandise, would yield a very respectable revenue towards paying for maintenance of the works and for interest on their cost.

Comparing the passage from the west to the ocean via the Ottawa canal route with that to New York by the Erie canal, the former is not only the most expeditious, but the cost of transportation is so much less that the traffic can bear the imposition of a fair rate of canal tolls, which the Erie route cannot.

Comparing the route via Ottawa canal with that of a ship canal via Welland canal and the St. Lawrence, the following may be considered a fair test. At least ½c per bushel must be allowed for extra freight and insurance on the longer trip from Lakes Michigan and Superior to Port Colborne, as compared with the shorter trip to French River. As the cost of French River to Montreal, including elevating and tolls, will be 3c per bushel, then in order to compete, vessels by the ship canal route have only 2½c to get for freight and insurance from Port Colborne to Montreal, even if free from tolls, and, if subject to ¾c per bushel as proposed on Ottawa route, only 1¾c. No one pretends that this route would prove remunerative to vessel owners. It may be said that in this comparison, no allowance is made for the cost of elevating at French River. With the large business likely to be done, the cost of this service should not exceed ¼c per bushel; and it is generally admitted that in the summer season at any rate, the condition of grain is improved by each elevation to an extent fully equal to the cost of elevating.

Comparing the Ottawa route with the proposed ship canal from Georgian Bay to Toronto, and admitting that the doubts as to ample supply of water for the latter from Lake Simcoe, and as to the stability of the high banks through its deep cuttings should be dispelled, and the feasibility of the project in these respects established, there remain the questions of relative cost of construction and economy of transportation.

Without anything like reliable data as to the cost of construction in either case, it would be reasonable to estimate that the cost of the Georgian Bay canal would largely exceed that of the Ottawa route, but assume the cost to be the same the Georgian Bay canal would be practically useless until the channel of the St. Lawrence River and the St. Lawrence canals should be deepened to correspond with the former. To justify the construction of a ship canal from Georgian Bay to Toronto its advantages must evidently be of sufficient value to warrant the additional expenditure required between Toronto and Montreal. With six short canals between Kingston and Montreal to be passed through, it is very doubtful whether grain or any other merchandise could be transported even from Toronto to Montreal by the class of propellers adapted to that route, as cheaply as they could be by barges over the whole route from French River to Montreal. If so, this would leave absolutely nothing for freight or tolls on the 100 miles canal from Georgian Bay to Toronto.

The Ottawa canal is no new project. It was discussed nearly fifty years ago, and a survey and report were made by Mr. Walter Shanley in 1858, and another survey was made in 1860 by Mr. Thomas C. Clark; but as conditions have greatly changed since then, these surveys and estimates are of little value beyond establishing the practicability of the scheme. With respect to its merits, the late Sir John A. MacDonald thus spoke at a public dinner given in his honor, at Ottawa, in 1865: "Just as sure as the legislature is settled here, and they see this portion of the country, just so surely will be carried out the great scheme of connecting Lake Huron with the Ottawa. The subject has pressed not only upon the attention of colonial public men, but it is impressed also upon the attention of British statesmen." On another occasion he said: "The Ottawa ship canal must be constructed, and no voice would be raised against the great national work, which would open the western states and colonies to the seaboard." The late Hon. Alexander Mackenzie from his place in parliament expressed himself as being perfectly satisfied that

the Ottawa Valley presented the greatest facilities of any route upon the continent for the transportation of products of the northwest to the Atlantic Ocean, or rather to the head of Atlantic navigation." Mr. McLeod Stewart, the chief present promoter of the work, gives the following valuable testimony to the feasibility of the project, from Mr. A. M. Wellington, of Engineering News, New York: "I do not care to go into the details of the Ottawa project at the present time, any more fully than I have already done. My conviction that the Ottawa River affords the best opportunity on the globe for a well-planned ship canal, is a fixed one."

The idea of a great ship canal and lake and river route to the seaboard is a magnificent and attractive one on paper. Tested by a comparison of probable practical results with cost of construction, it is a visionary one. After all, what great direct or indirect advantage would accrue to the greater part of Canada from its construction and operation? The immense vessels employed would be unable even to touch at the harbors on Lake Erie and Ontario. If by constructing the canal system from Lake Huron to Montreal via the Ottawa, Canada can attract as much foreign traffic as by the more magnificent but much more expensive ship canal project, this of itself should ensure the adoption of the former. When to this consideration is added the incalculable advantages which will be derived by the settlers on both sides of a 400-mile channel of navigation; the additional value that will attach to the lands, timber, minerals and farm products of the immense territory tributary to it; the lateral railways that will be built; the vast water powers brought into use, and the new industries established; the following results will be realized elsewhere: "Complete this national water system—with the railway system as feeders to it—and the results attained will be so magnificent as to claim the admiration of the world; so attractive as to invite to us its best people and its greatest wealth, and so powerful for good as to bind the country together in indissoluble bonds for all time."

The Manufacturer has formerly expressed its surprise and regret that government and parliament have displayed so much indifference to this promising enterprise as to surrender the control of it to a private corporation. It seems almost incredible that parliament should delegate such powers to any company, however wealthy; powers that may affect the prosperity of tens of thousands of the settlers along its banks, may destroy one town or build up another, may favor one section and retard another. All this granted to a company on paper, which did not produce a particle of evidence of financial ability to proceed with the work, and whose only hope of being able to proceed lies in the prospect of obtaining Dominion and Provincial aid. The negligence in allowing the charter is only equalled by their culpability in omitting to protect the public under the conditions of the act. It is provided that the tolls to be levied by the company are to be subject to the approval of the Governor in Council. But the company is authorized to sell or lease any terminals, harbors, wharfs, docks, piers, elevators and warehouses which they may construct. Government may compel only reasonable tolls to be levied on grain or merchandise transported upon the canals, but if the wharves and elevators are leased or sold by the company, how can government regulate any charges which may be imposed for wharfage, elevating, storage, etc.? It may be that the company will, in ordinary seasons, be compelled to maintain reasonable tolls, but there have been seasons in former years, and there may be such seasons in time to come, when every channel of transportation is crowded with freight.

The granting of a charter for this great work to any company has been a great mistake, and the granting of a charter with such conditions as this one contains was a greater mistake. Fortunately this act of incorporation has expired through non-fulfillment by the company of the conditions contained in it. An application is before parliament for its revival. The answer should be, "It is dead, there let it lie."

One-half interest in the steamer Mark B. Covell has been sold to the Michigan Trust Co., of Grand Rapids, to Sarah E. Kittenger, of Manistee, for \$6,000. The steamer North Star has been sold by John H. Mulchrone, of St. Ignace, to William Sullivan, of Mackinac Island, for \$3,000.

RAPID SHIPBUILDING ON THE LAKES.

If the exigency should ever arise requiring the rapid turning out of a fleet, we need have no fear of our capabilities in that direction. While we are deploring the low ebb of the shipbuilder's occupation in the United States, we have still before us an object lesson of what we can do if we have a chance. Never before in the history of American shipbuilding has such work been seen as has been done in the construction of the Bessemer Steamship Company's fleet of lake freight ships. The company was formed in the first week of December of last year and contracts were at once made with lake shipyards, then fairly busy with other work, for the building of twelve great ships, each larger than any others on the lakes, except one afloat and two under contract for another company. As we write, eight of these ships are in commission, and the remaining four will be finished in October. Four other ships have been bought, and in ten months from the decision to build, the company will have a carrying capacity of 65,000 tons on present draft and 95,000 tons on the deeper draft soon to be available. This fleet will be able to handle about 2,000,000 tons of ore in one season of navigation. The cost of the fleet will be about \$3,400,000.

The vessels of the Bessemer fleet have been appropriately named for men famous for their connection with the mining, engineering and metallurgical world. The flagship of the fleet is the "Sir Henry Bessemer," while among the others are such names as "Nasmyth," "Ericsson," "Corliss," "Krupp," "Fulton," "Watts," "Siemens," "Ball," "Fairbairn," and "Holley." Amid all the development of the lake marine and steel interests in the last few years, it has strangely remained for this new company to honor the memories of the greatest men these industries have had.

The vessels are built on a guarantee to carry, on 14 feet draft, 4,000 gross tons, and those that have been tried have slightly exceeded these figures.

The evolution of lake shipping from the craft of a dozen years ago, when 1,500 tons was the maximum, has been wonderful. As deeper and deeper channels have been provided by the government, the enlarged vessels have been ready in advance of the completion of each improvement, and the government has been continuously pushed by the shipowners. Still larger ships are already being planned, up to 500 feet in length, and a carrying capacity approaching 9,000 tons.

Within ten years, freight rates were tenfold greater than now, the Gogebic shippers at one time paying nearly \$6 per ton to get their ores to Cleveland. Now the big ships can carry at a cost of 50 cents a ton, and a steady rate of 80 cents would be a good enough thing for any owner.

These steamers since they have been put in service, show excellent speed for freight boats. The "Bessemer" and the "Siemens," built by the Globe Company, Cleveland, make 15 miles light and 13½ miles loaded. The cylinders of the "Bessemer" are 25, 41 and 66 inches by 42-inch stroke.—American Machinist.

NEW CANADIAN TONNAGE.

It is now reported from Montreal that the Richelieu & Ontario Navigation Co. will add two large side-wheel steamers to their present fleet. The new vessels are to be at least 275 feet in length, and it is promised that they will be the finest and most spacious passenger steamers ever seen on Canadian waters. It is expected to operate them between Toronto and Prescott, and upon the completion of the Soulanges canal to extend the trips to Montreal. The plans for the new boats are now said to be in the hands of an expert draughtsman and consulting engineer of Detroit.

THE LAW OF STORMS.

The Hydrographic Office has issued a special "Notice to Mariners" for the current month entitled the "Law of Storms with some Practical Hints to Navigators on the Great Lakes." The pamphlet contains the following contents: "The Occurrence of Storms on the Great Lakes," "Nature and Cause of Storms, and Barometric Changes Attending Them," "Storm Center," "Average Storm Track," "Barometric Depression," "Shape of the Area at Low Pressure," "Barometric Definition of a Storm," "Wind and Weather of the various parts of the Depression," "Bearing of the Storm Center from the Observer," "Storm of October 3, 1894, on the North

Atlantic, supplemented with a chart showing storm track and isobars," "Management of the Vessels and Rules for Heaving To, with diagram representing a storm, whether on the ocean or Great Lakes," "Further differences between the front and rear of the storm." "The storm of May 27-30, 1896, on the Great Lakes," supplemented with charts showing storm track, isobars, wind and weather symbols giving the direction and force of the wind and kind of weather for 42 positions of different vessels on the lakes, together with the number of each vessel upon whose observation the charts are based." This special issue of the "Notice" on the subject of "The Law of Storms" is the first compilation of the kind ever issued for lake service.

AT DAVIDSON'S SHIPYARD.

No attempt will be made to launch any of the wooden vessels that Capt. James Davidson has on the stocks at West Bay City, Mich., until November 1, as it is not intended to have any of them go into commission this season. There are three boats—a steamer and two large tugs—constructed on builders' account. Another tug built for B. B. Inman of Duluth, and which was launched a few days ago, will go into commission as soon as possible. Captain Davidson has a large amount of timber on hand, but he says now that the great change in business conditions is causing him to hesitate about putting down any more keels. The steamer that is to hold over until next season is 280 feet over all, 43½ feet beam and 26 feet molded depth.

The wreck of the schooner W. S. Crosthwaite will go into Capt. Davidson's dry-dock for a general overhauling and repairs.

The steamer Walter Veal, owned by H. J. Pauley, of Milwaukee, is at the shipyard to be converted into a double decker. It is expected that after the rebuild she will carry 10,000 more bushels of grain than at present.

A NAUTICAL WANDERING WILLIE.

A dispatch from Colon, U. S. C., says an exchange, contains the following: The steamer Soledale, at this port, reports that the schooner Alma Cummings, which was abandoned at sea on February 26, 1895, and since then has been drifting about the ocean, was seen ashore on one of the Islands off the San Blas coast on Aug. 18, 1896, and that the Indians were stripping the wreck.

During the eighteen months of her wandering, the Cummings has traveled further than any derelict, with one exception. She was abandoned by Capt. Cummings and his crew February 11, 1895, about 120 miles off the Delaware capes, as she had met with a severe storm and had become so waterlogged that it was thought unsafe to remain on her longer. She was sighted two days later 60 miles to the southeast of where she was abandoned. Early in March she was seen again, having drifted 550 miles east across the Gulf Stream. Then she shot off to the northeast on the last day of March in the steamship track and in the midst of icebergs. She escaped them, though, and when next heard from it was the last of the following April, 100 miles further south.

Between then and May 6 she traveled 160 miles east and was seen May 24 about 3000 miles east of her former position, and was then in mid-Atlantic, between Hatteras and Gibraltar.

For nine months thereafter she completely disappeared, until Capt. Whitby of the British steamship Ormston saw her on March 19, 1896, 1,140 miles south of the place where she had last been seen, in the latitude of the Windward Islands. She had probably been drifting about in the Sargasso Sea, noted for the meeting of many ocean currents there. She drifted during her travels about 6,500 miles, and was seen only eight times.

The derelict that holds the record for distance traveled is the schooner Fanny Woolston, which drifted about 8,000 miles in three years, before she finally vanished, in 1894.

We are just in receipt of first copies of a new Hydrographic Office chart of the St. Mary's River, covering the distance between Shifting Point, at the head of Little Mud Lake, and the Turning Buoy, in Mud Lake proper, with a part of the Winter Point Range. The price of this chart is only 25c, although made from the latest surveys. For sale at MARINE RECORD offices, Fourth Floor, Western Reserve Building.

FLOTSAM AND JETSAM.

Capt. G. W. Flood has resigned his position as master of the steamer Shenandoah.

Toledo Harbor, No. 43, American Association of Masters and Pilots, held its first meeting of the season, Wednesday evening.

Capt. J. W. Flood has resigned command of the steamer Shenandoah, and Capt George Stevenson has been appointed to the vessel.

It is not perhaps as generally known as it should be that no libel for wages can be taken in any of the United States courts against canal boats that are without masts or steam power, and duly licensed or enrolled.

The steamer Corona, of the Niagara Navigation Company's line, will continue making daily trips between Lewiston and Toronto until Saturday, October 3, after which date she will be laid off. The steamer Chicora will run as usual a week longer, discontinuing her trips for the season on Saturday, October 10 next.

Low water in the harbor has prevented several vessels from reaching their docks in Buffalo this week. The steamer Simon Langell and barge Arenac, lumber-laden and bound for Tonawanda, the H. A. Tuttle and the John Mitchell, were all detained on account of the low water.

Tuesday's gale sent a large number of vessels into port for shelter at various points on the lake. Freights are now low and scarce enough, so that when detention through bad weather occurs, as it always does more or less at this season of the year, there is mighty little clear money left for the vessel to meet her current expenses with.

Last month Sir Raylton Dixon & Co. launched from the Cleveland Dockyards, Middlesborough, Eng., three steel barges fitted for ocean towing. These vessels have a deadweight capacity of 350 tons at 8 feet, and are fitted with water ballast and other appliances to make them thoroughly seaworthy. The same builders have also on the stocks an ocean barge of 1,000 tons deadweight. The vessels are all of very similar construction to those which they built for a Dutch company in the early part of the year, the working of which has proved highly satisfactory.

The schooner John Schuette, of Toledo, has an interesting history. She is a 600-ton craft, 140 feet over all, 26-foot beam and 11-foot hold. The Schuette was built in 1875 at Two Rivers, Wis., and her maiden trip was a long one. Her builder ran away with the craft. The owners made every effort to recover their property and the schooner was finally captured in the Baltic Sea. John Schuette, a Manitowoc banker, who owned the vessel, put her in the trade between New Orleans and Holland, and she made many trips across the Atlantic. Four years ago L. S. Sullivan, of Toledo, purchased the schooner and since that time her present master, John O. Johnson, has been sailing her in the lake trade.

Evidently through inattention to the camber of the vessel when dry-docking, the old Goodrich Liner Muskegon is now considered about a total loss and vesselmen are discussing the liability of the Milwaukee Shipyard Co. for the damage done to the craft. The case is a novel one on the lakes, but the general opinion is that there are good grounds for litigation over the loss. It will be a most difficult matter to get the steamer out of the dock if such a proceeding is undertaken. In any case the wreck must be raised on jacks and a canvas jacket must be placed from one end to the other if she is to be floated out. The wreck is said to be the most complete ever seen by the surveyors who have looked her over.

The New York Marine Journal says the only English establishment of the nature of a sailors' snug harbor is the Royal Alfred Aged Merchant's Seamen's Institution, which was established in 1867 to "give a home or a pension to the merchant seamen when old, destitute and helpless." It has admitted to its home, situated on a beautiful Kentish hill at Belvedere, 467 inmates, and has given a pension of £12 a year to 786 others at their own homes throughout the United Kingdom. These benefits are enjoyed, on an average, seven years, and so eagerly are they sought after that there are now 260 approved applicants on the books, men who are between 65 and 85 years of age, and who have weathered the storms and dangers of the sea for periods of from 21 to 64 years. The Journal has apparently forgotten or overlooked the splendid institution on the banks of the Mersey and the beneficent Mercantile Marine Service Association, of Liverpool.



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HERE AND THERE.

While there is nothing flattering in any way to the vessel owning interests at this time, charters being like "angels' visits," and ordinary freights below fair living rates, yet, it can not be gainsaid that a more cheerful outlook is being generally evinced in nearly all trade circles, and a return of what is called "confidence" is apparent.

The Hydrographic Office, U. S. N., has just issued a pamphlet containing the law of storms and the best means of handling a vessel so as to avoid the axis or storm center on the lakes. The practical hints therein given are invaluable in lake navigation and much credit is due the hydrographer for compiling this timely publication.

The brief digest of a collision case in fog contained in this issue is taken from a recent number of the American Shipbuilder and is applicable to lake navigation. Now that the fall of the year is upon us when fogs and snow storms prevail to so great an extent, too much care can not be exercised in the navigation of the present valuable tonnage afloat on the lakes.

Whether the hard blow of the 29th and 30th may be attributed to the "equinoctial" currents of air in motion, or to the regular and ordinary fall storms, can be left to the weather-wise to settle. Suffice it to say that in all localities with which we are acquainted it verified the predictions sent out by the Weather Bureau and caused a deplorable loss of life with heavy damage to shipping at lake ports. The most serious casualty reported as we go to press occurred on Lake Michigan through the foundering of the tow barge Sumatra and the loss of four lives, all of whom hailed from West Bay City, Mich., thus leaving many sorrowful hearts in that thriving town to grieve over the loss of their breadwinners, friends and associates.

The spirit of competition comes to the surface wherever a good paying line is established, and this time it is found in the passenger trade between Cleveland and Detroit. A round trip including berths for one dollar is the phenomenal rate now charged for Saturday night trips by the old line, but there are no refreshments yet spoken of as an extra inducement to travel. This trip used to cost about seven dollars, so that the inference is that the boat owners are either willing to lose money or

that the route must have been a veritable gold mine in the past.

With the increase of population of the large cities bordering on the lakes, it is evident that the sewage and dumping custom now prevalent will require a radical change if the drinking water is to be kept pure and uncontaminated. The majority of users take no means of filtering their supply, and the municipal water-works department no doubt find the volume too great for adequate and safe treatment. Chicago is now complaining of the impurity of her drinking water, and it has been suggested that the current which is said to sweep to the south along the west shore of Lake Michigan in that vicinity may have carried the garbage dumped near the Milwaukee crematory to the former city. The cheapest and easiest way to run off sewage and waste water is generally lakewards, but the danger of large and adjacent cities in thus doing so can not be too strongly brought to the front at this time, when sanitary arrangements at many ports are still in an undeveloped or crude form of system.

The American Ensign is being used more as an advertising medium at this season than ever before, it being a common sight to witness fathoms of cotton showing the names of political aspirants tacked on to the stars and stripes waving from prominent places. There is an eternal fitness in all things, and it is lowering the dignity of the American flag in making so cheap a show of the emblem. Let us all remember that a quack medicine vender might with equal pertinency use the ensign for similar purposes. We may furthermore imagine the widespread consternation, not to say angry feeling which would be aroused if our neighbors, the Canadians, put our national flag to such a use. Certain it is that they would not use their own for any but national and legitimate purposes. Let us have all the pennants, flags and banners possible, and of every conceivable device, but keep sacred and in all honor and glory the nation's distinguishing flag, which ought only to represent, wherever sighted, and under all conditions, the integrity of the Union, and our power to so preserve it. Columns might be written on this subject and to good purpose, but a word to the wise is sufficient. There need be no more national flag incidents than are absolutely necessary to vindicate the glory of the Union and its handsome, (if not disfigured) emblem of freedom.

Private interests, or rather the shipmasters themselves, ably endorsed by their owners, were eventually compelled to formulate steering and sailing rules for lake tonnage to be guided by, and as a consequence the White bill became a law, although rushed through in what some might consider undue haste and not yet accepted by the Canadian lake marine. Regulations for navigating the "Soo" River had also to be inaugurated by men using that waterway, owing to the former inadequate sailing and steering directions leading to frequent serious casualties, including heavy damage by collision. The foregoing has been accomplished by masters notwithstanding the resistance of a ponderous and expensive department of the Federal government, whose reason of being, is to conserve the best interests of the steam tonnage of the country, and now, although the feature has been repeatedly brought to the attention of the august chief of the steamboat inspection and licensing department, we find a feeling extant that his code of examination for competency to handle a steamer is being questioned by the practical men themselves, and among those who desire a higher grade of voluntary examinations so as to prove superior technical qualifications. A system has been time and again advocated in THE RECORD whereby the technical requirements of candidates wishing to receive the first issue of a license should be raised each year until the highest point of proficiency required for the trade or service is attained. The following from the Detroit Free Press may indicate to the licensing board what steps they may be forced to take in the near future, although it is not classifying from a record that is required, but rather a proper examination of an applicant's technical fitness to take charge. We quote as follows: There are, of course, captains and captains on the lakes as well as on the ocean; and this leads to the advocacy from some

quarters of a classification of them according to their record. The plan has been talked of more or less for some time, but the authorities appear to lack the nerve necessary to put it in force, or at least that is the reason given by some who are urging it. Of course it would be more or less unpopular with the captains themselves, but it must be acknowledged that the condition of things is rapidly changing. The lake vessels that are worth away up above \$150,000 are getting to be many. "When I see certain captains turning up time and again, the victim of the same accident," said an advocate of the classification plan, "while others stay afloat, I am ready to do almost anything to increase the skill of sailing masters." The difficulty now is that vessels are so well insured against all sorts of accidents that about all a captain has to do is to make a break from one port to another and get there as soon as he can. The wind-up of the classing advocate is not at all flattering to the men who have spent the best years of their lives in studying and learning their business thoroughly.

DEATH OF A GRAND HAVEN SHIPBUILDER.

Capt. Thomas W. Kirby, a Grand Haven vesselman, suffered a paralytic stroke on Friday last while on his way to Detroit with his family, and after slowly sinking, passed peacefully away on Wednesday, surrounded by his family and life-long friends. The body was shipped from Detroit to Grand Haven for interment.

Capt. Kirby settled in Grand Haven about 40 years ago, trading there as captain of a lumber schooner. He eventually established a large shipyard and was the principal in the Michigan Barge Co. He was born about the year 1831, on his father's sailing vessel, in the China Sea. He father was English and his mother Irish. He was reared in Ireland.

Mr. Kirby married Mary O'Brien in Chicago, some 30 years ago, and six children are living, five sons and a daughter. He was mayor of Grand Haven three terms, from 1887 to 1890, and again elected for the years 1892 and 1893. He sailed on the ocean some ten years, and on the lakes for several years. His son, Morris S., married Miss Ferry this year.

His wealth is variously estimated at from \$750,000 to \$2,000,000. He is a large owner of Duluth city property, and stockholder in a St. Louis bank.

WEEKLY FREIGHT REPORT.

During the earlier part of the week Chicago grain rates seemed to stiffen somewhat, but an influx of large tonnage knocked it away off again and 1½ cents on corn to Buffalo, from 1½ cents quoted last week, marked the extent of the raise, although it was hoped to get an eighth better and make the rate 1½ cents basis on corn, but tonnage became too plentiful. During the week wheat was offered to be carried from Duluth at 1 cent by vessels taking up 20 cent coal, but there was none of it until later in the season, and some vessels took 50 cent ore from Marquette. The coal rate, Buffalo to Chicago or Duluth, ruled at 20 to 25 cents.

A strong attempt was made to hold out for 50 cents on Escanaba ore, but the rate broke to 45 cents, and even at that figure several large steamers went up light on 40 cent charters, though at that rate of freight it is figured they must lose money on the round trip. With heavy weather setting in and insurance rates high, freight on all classes of cargo must take an early and marked rise, or the majority of the lake fleet is likely to dismantle for the winter and call the season closed.

PLANS FOR A NEW SIDE-WHEELER.

Ever since the Cleveland & Buffalo Transit Co. accepted the splendid side-wheel steamer City of Buffalo, from the hands of her builders, the Detroit Dry Dock Co., it has been made apparent that she requires a sister ship to run on schedule time with her and take care of the fast increasing traffic of this new line. Although the Buffalo has only been out this season her increased earnings and efficiency over the other boats of the company seems to point out that it would be good business policy for the owners to build another large speedy side-wheeler, hence, after considerable discussion the report is again floated that the directors of the company have determined to ask builders for plans and specifications on similar lines to the City of Buffalo, although the date of placing the contract or where it is likely to go is not yet given out for publication.

SOLITARY CIRCUMNAVIGATION.

One of the most daring feats in seamanship and navigation is now being carried out by an American shipmaster named Joshua Slocum, a veritable down-Easter from his name.

Capt. Slocum sailed from Boston last year, the solitary occupant of a 15-ton sloop with the intention of sailing around the world, a feat which he has now nearly accomplished. After sailing from Boston he safely crossed the Atlantic on the Southern route to Gibraltar, from which port he proceeded to the Straits of Magellan, thence across the South Pacific Ocean to Sidney, N. S. W., Australia, arriving all well at the latter port this week. From Sidney, Capt. Slocum will sail his small sloop rigged boat, named the Spray, to Melbourne, Victoria, and from thence to Adelaide, in the colony of South Australia, after which he will proceed via the Cape of Good Hope on his return journey back to the United States, and thus be the first solitary seaman to have circumnavigated the world.

Capt. Joshua Slocum, during his forty years of seafaring life, has commanded the following vessels: Barks Constitution (wrecked in Samoa), B. A. Mar, Amethyst Aquidneck (of which he was owner) and the ship Northern Light. He was also navigating officer of the war machine Destroyer when on her voyage to Brazil to annihilate, for and on account of President Piexoto, the navy of the rebel Admiral Mello, and last but not the least of this enterprising man's adventures was building a canoe 35 feet long from the wreck of the Aquidneck, and, with his family, sailing a distance of 5,000 miles to New York.

A Milwaukee seaman, named Capt. Adolph Frietsche, recently built and transported to the Pacific coast a small vessel in which he purposes to emulate the example of Capt. Slocum, only that the Milwaukee man, it appears, is making an advertising tour for a brewery firm of national repute, while the down-Easter is doing it for the pure love of seamanship and is proving to the world how men of his profession can be trained to successfully battle with the elements under the most trying circumstances.

It is somewhat difficult to determine whether this sort of a "tempting Providence excursion" is a brave, skillful and courageous act or a mere foolhardiness of notoriety-loving flat-footed nautical cranks. Many persons were very much disposed to believe the latter assertion would about answer the query when a little over a year ago Capt. Frietsche started from Milwaukee in the small sail boat Nina to visit the British Isles and the north of Europe. However, the voyage across the Atlantic and a great deal of cruising on the coasts was successfully carried out by Frietsche and not until his tour was almost completed did the Nina meet with bad weather on the Scotch coast near Greenock, and the intrepid sailor left her bones there, returning home as passenger on a steamer. The very least that can be said of Slocum and Frietsche is that they are both skillful seamen and navigators, endowed with more than an ordinary man's share of physical endurance and a rugged determination to overcome all obstacles.

NOTICE TO MARINERS.

One of the gas buoys recently located at Point Pelee, Lake Erie, broke adrift from its anchorage during the gale of Tuesday night and has not yet been recovered. Any master sighting it is requested if at all practicable and convenient to tow it to some safe harbor, or if stranded or beached anyone seeing it is requested to kindly notify George Gott, collector of customs at Amherstburg, or Capt. George P. McKay, at Cleveland.

THE GREAT LAKES STEAMSHIP COMPANY.

Since Mr. John Gordon, of Buffalo, severed his connection with the Great Northern Railroad Co., his name has been coupled with numerous lake projects, both with passenger and cargo carrying adventures. Up to date, however, the forming of the Great Lakes Steamship Co., consisting of the large steel steamer Globe,

built by the Globe Iron Works Co., of Cleveland, has perhaps been the chief feature of Mr. Gordon's business in so far as lake interests were concerned. It is now learned that Mr. Gordon has formed an alliance with the Wisconsin Central Railway Company, which connects Manitowoc, Wis., with St Paul and Minneapolis. The Twin City jobbers objected to the rates charged by the railroad companies for carrying freight between those places and New York, Philadelphia and Baltimore. A reduction in rates to a 75c basis was requested and refused. Through Mr. Gordon's assistance charges have been reduced to a 50c basis. The new schedule is: First class, 70c; second, 60c; third, 50c; fourth, 35c; fifth, 30c; sixth, 25c.

The Trunk Line Association refused to join in this tariff, so the Great Lakes Steamship Co. has to pay the local rates to Buffalo, adding what they claim is a profitable rate from Buffalo to the Twin Cities. Now the first-class rate quoted from Buffalo by the new line is 31c, subtracting which from the first-class rate from New York, 70c, leaves 39c as the local steamship company has to pay on the shipments from New York to Buffalo. The routes by which the above tariff is effective are as follows: From New York, Lehigh Valley and Great Lakes Steamship Co.; from Philadelphia, Philadelphia & Reading and Lehigh Valley and Great Lakes Co.; from Baltimore, Northern Central and Great Lakes Company.

The new rates are:

From Cleveland—Rates on iron articles, 10c.

From Albany and common points—First-class, 65c; second, 55c; third, 45c; fourth, 32c; fifth, 27c; sixth, 22c.

From Rochester—First-class, 46c; second, 39c; third,

32c; fourth, 24c; fifth, 21c; sixth, 17c.

From Buffalo—First-class, 31c; second, 27; third 22; fourth, 16; fifth, 14; sixth, 12.

It is therefore to be seen that Mr. Gordon has not been altogether "laying on his oars" during the summer, as it must have taken considerable time and business tact to arrange so inclusive a tariff as the foregoing.

SCANT DRAFT IN THE WELLAND.

Vessels have found but a scant draft of water in the Welland canal this week and for two or three days navigation for the down-bound craft was nearly suspended. The steamer Glidden and consort Aberdeen lightened to a draft of thirteen feet two inches and could not get through the lock. The steamer Gov. Smith, drawing thirteen feet, was only able to get through with the aid of two harbor tugs. Prevalent easterly winds lowered the water on the mitre sills to thirteen feet two inches and down bound vessels had to lighten to less than thirteen feet draft to get through until the wind changed and raised the water level.

We are just in receipt of first copies of a new Hydrographic Office chart of the St. Mary's River, covering the distance between Shifting Point, at the head of Little Mud Lake, and the Turning Buoy, in Mud Lake proper, with a part of the Winter Point Range. The price of this chart is only 25c, although made from the latest surveys. For sale at MARINE RECORD offices, Fourth Floor, Western Reserve Building.

PATENTS PERTAINING TO MARINE.

Otto Schnicke, Three Lakes, Wis., has patented a self feathering oar.

Eugene Duerr, Buffalo, N. Y., a method for the propulsion of vessels, being a revoluble shaft, extending through the bow of a vessel, and one or more longitudinal spiral tubes open at both ends and secured to the shaft. The inventor seems to have in view the turbine wheel or spiral principle at the forward end of the shaft, and exposed like a bow wheel, so as to assist the propeller wheel fixed on the after-end of the shaft in the usual manner.

William E. Booraem, Brooklyn, N. Y., has invented a tidal wheel, described as follows:

A horizontal trunk open at its ends and adapted for submergence in a tideway; a water-wheel within the trunk mounted upon a vertical shaft extending upwardly above the top of the trunk for transmitting the power due to the rotation of the wheel, and two deflecting-plates, one mounted upon a vertical rock-shaft midway between the sides of the trunk and in proximity to one side of the water-wheel, and extending from the rock-shaft outwardly toward one end of the trunk, and the other mounted in like manner upon a vertical rock-shaft midway between the sides of the trunk and in proximity to the other side of the wheel, and extending outwardly from the rock-shaft toward the other end of the trunk, further:

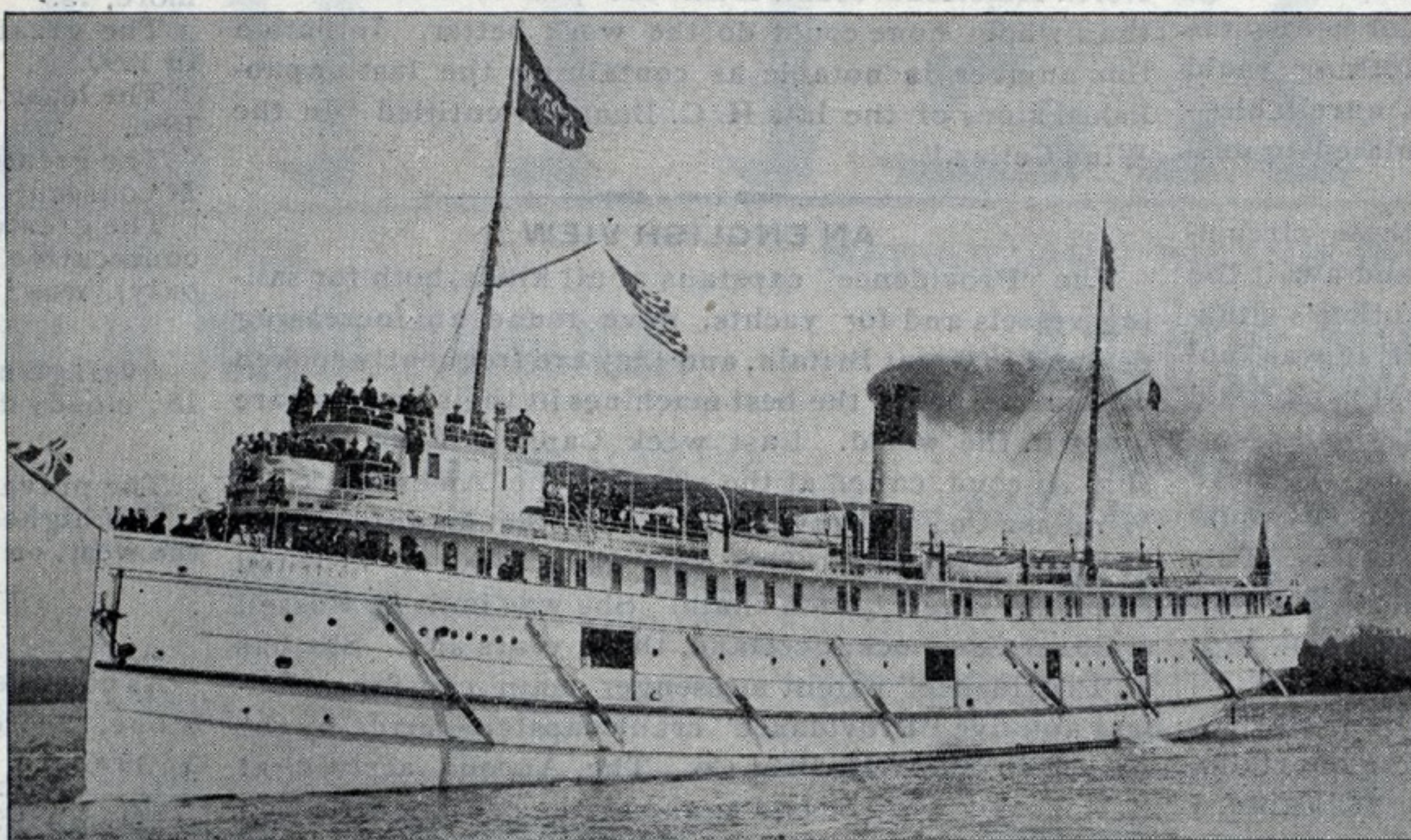
A water-wheel mounted upon a vertical shaft; a horizontal trunk in which the water-wheel is contained; deflecting plates swinging on vertical axis in proximity to the opposite sides of the wheel, the axis lying in the central vertical longitudinal plane of the trunk, two stops, the one on one side of one deflecting-plate, and the other on the other side of the other deflecting plate, for so limiting the range of movement of deflecting plates as to prevent either of their free extremities from reaching the central longitudinal plane of the trunk, whereby the cross-area of the current delivered to the wheel is approximately only one-half of the cross-area of the space afforded by the outflowing current from the wheel irrespectively of the direction of the current flowing through the trunk.

Frank H. Lemon, Redondo Beach, Cal., a wave motor, forming a structure a series of floats arranged one in advance of the other and in parallel planes to each other and having one of their ends adjustably pivoted, a line-shaft supported by the structures and means in connection with said floats for transmitting power to the line-shaft.

William M. Spann, Doniphan, Mo., a propeller for boats being a combination with a boat and the vertically-disposed supports at the rear thereof, of the removable plates on the rear end supports, and the supports and plates having oppositely disposed recesses to form bearings for the crank-shafts mounted in bearings in the same vertical plane, but in different horizontal planes, the stirrups mounted on the paddles for vertical adjustment, and the paddles secured to the crank-shafts and having bearings in the stirrups, each paddle being connected with the cranks of both shafts, and having their ends beveled and adapted to enter and leave the water substantially vertically.

A long-felt want of Upper Georgian Bay navigators has been met in the issuing by the Hydrographic Office, of a chart, in large detail, of this bay from French River to Little Current and Cabot Head. This includes the greater portion of the shores of Grand Manitoulin and the neighboring islands, and the new ranges, and the results of all late soundings are carefully given. A scale of statute miles, extending the entire length of the chart from top to bottom, greatly facilitates calculations for those accustomed to compute distances by this standard of measurement. The price is \$1.25. Furnished promptly upon application at THE MARINE RECORD offices, Fourth Floor, Western Reserve Bldg., Cleveland.

Besides being an exact and reliable vessel register, Beeson's Inland Marine Directory this year has the added feature of the dimensions and latest insurance ratings of lake tonnage.—Toledo Evening Bee.



THE GEORGIAN BAY STEAMER MAJESTIC.
209 feet keel, 35 feet beam, 1,578 tons, managed by the Northwestern Transportation Company. C. Cameron, Collingwood, Ont., Owner.

MARITIME LAW.

THE GRENADIER VS. THE AUGUST KORFF; THE AUGUST KORFF VS. THE GRENADIER.

District Court, E. D. Pennsylvania. June 30, 1896.

1. COLLISION—STEAMERS IN FOG—SPEED.—Where steamers become aware of each other's presence, in a fog so dense that neither can be seen beyond two lengths, and that the sound of the fog signals is liable to be deflected, the duty of each is to stop and await the lifting of the fog, or, at all events, to slow down so completely that each can stop within the distance in which a vessel can certainly be seen.

2. SAME.—Where two steamers collided in a dense fog, one of them having stopped her engines and commenced to back, soon after hearing the other's fog signal, while the latter did not slow materially, if at all, below half speed, until near the moment of collision, held that the latter was solely in fault.

These were cross libels in rem to recover damages resulting from a collision between the steamers Grenadier and August Korff.

Butler, District Judge. On the morning of August 1, 1894, the Grenadier, a steamship of 921 tons register, from Rotterdam to Newcastle, and the steamship Korff, of 3,104 tons register, from Nordenham to Philadelphia, collided in the North Sea. The Grenadier sank within half an hour, while the Korff escaped without very serious injury. A dense fog existed at the time. The course of the Grenadier when the Korff's signal was first heard was near N. W., and that of the Korff S. W. They were unaware of each other's approach until their respective signals were heard, and neither was seen, nor could be seen, until they were dangerously near together. The Korff's stem struck the Grenadier at the break of her fore-castle, on the bluff of her starboard bow, nearly at a right angle, penetrating a distance of 15 to 20 feet. At this time each was enveloped in fog, so dense that the other could not be seen, nor her course be ascertained from the signals heard. Nothing could be determined by the sight, and sound was unreliable—likely to be obstructed, deflected, and calculated to mislead.

What was the duty of the vessels under these circumstances? Plainly, I think, it was to stop, and await the lifting of the fog or seek to ascertain each other's situation by repeated signals; at all events (if it was not this) it was to slow down so completely that each could stop forward motion within the distance at which a vessel might certainly be seen through the fog. To move with greater rapidity under the circumstances would seem to be clearly improper, and indeed reckless. This view has the support of abundant authority: The *Bo. livia*, 1 U. S. App. 26, 30 (1 C. C. A. 221, and Fed. 169); The *Colorado*, 91 U. S. 692; The *Nacoochee*, 137 U. S. 330 (11 Sup. Ct. 122); The *Europe*, 2 Eng. Law and Eq. 557; The *Batavier*, 9 Moore, P. C. 286; The *Martello*, 153 U. S. 64, 71 (14 Sup. Ct. 723); *Steamship vs. Fabre*, 1 U. S. App. 614 (3 C. C. A. 534, and Fed. 288).

The Korff's proctors contend that: "The navigation of the vessel was governed by the 13th, 16th, 18th and 22d articles of the international rules: Article 13. 'Every ship shall, in a fog, mist or falling snow go at a moderate speed.' Article 16. 'If two ships under steam are crossing so as to involve risk of collision, the ship which has the other on her starboard side shall keep out of the way of the other.' Article 18. 'Every steamship which approaches another ship so as to involve risk of collision, shall slacken her speed, or stop and reverse, if necessary.' Article 22. 'Where by the above rules one of two ships is to keep out of the way, the other shall keep her course.' These vessels were on crossing courses, the Grenadier heading N. N. W., and the Korff heading S. W. $\frac{1}{2}$ W., almost at right angles. And the Grenadier had the Korff on her starboard side. It was therefore her duty to keep out of the way of the Korff. And the burden is upon her to excuse herself." In the court's judgment neither of the rules invoked, except eighteen, is applicable to the circumstances of this case.

The Grenadier stopped her engines on hearing the Korff's first signal, and soon after reversed and signaled accordingly, on hearing the second, which seemed nearer.

The Grenadier's effort to back away as the Korff's signal seemed to approach, was not a fault; it indicates a proper degree of caution. It is idle to speculate about what might have occurred if she had not backed, or had moved forward. If she had moved forward with material headway, and collision had resulted, she would have been blamed, and doubtless been held responsible, in part at least, for the consequence. The Korff did

not stop on hearing the Grenadier's first signal; and I believe, after a full examination of her testimony, did not slack up materially, if at all, below half speed until near the moment of collision. Her testimony is not harmonious, and I think the weight of it, when the registrations upon her log are included, supports this view. The testimony of the Grenadier's witnesses who watched her approach and remarked upon it at the time, and the character and consequences of the blow and wound she received, do not leave my mind in doubt. I feel no hesitation in finding that the Korff was blamable in the respect stated, and that this fault alone caused the disaster. The libel against her must therefore be sustained, and her cross libel be dismissed.

THE LIBRARY TABLE.

Harper's for October contains the opening chapters of "The Martian," a new novel by George DuMaurier, author of *Trilby*; it is supplemented with a portrait and sketch of the author. A full paper on "Electricity," by R. R. Bowker, is illustrated with 24 interesting and instructive pictures. Samuel H. Scudder describes "Some American Crickets," and Judge Walter Clark contributes "A Recovered Chapter in American History," describing the ill-starred expedition of England and her American colonies against Carthage in 1746. Rather more than the usual quota of first-class fiction constitutes the number.

The October number of Scribners' is strong in American topics of immediate interest, including a satirical essay by E. L. Godkin on "The Expenditures of Rich Men," and a description of the picturesque and romantic features of the lighthouse system along the North American coast, from the pen of Kirk Monroe, than whom none could do the work better. In fiction this number is notable as containing the last unpublished story of the late H. C. Bumxer, entitled "In the Wine Cellar."

AN ENGLISH VIEW.

The "Providence" capstans of all kinds, both for sailing vessels and for yachts, have found an increasing demand in Great Britain, and they are frequently spoken of there as being the best machines in their line that are made in the world. Last week Captain Ellis, of the ship *Ancona*, called at the office of the American Ship Windlass Co., at Providence, R. I., the manufacturers of these machines. This ship is a 3,000 or 4,000-ton ship, carrying 2 $\frac{1}{2}$ -inch chain. She was built by Russell & Co. at Greenock, Scotland, three years ago. She has a "Providence" patent messenger chain capstan windlass and five "Providence" crank capstans, made by the American Ship Windlass Co. The *Ancona* arrived at New York a week or two ago, and the captain called on the manufacturers of his windlass and capstans to say how much pleased he was with his machines, and expressed the opinion that they excelled any other make of windlasses and capstans in the world. Within the past few weeks Messrs. G. T. Soley & Co., agents of the American Ship Windlass Co. for Great Britain, in writing to that company, said that they had fitted out about half of the sailing vessels built in Great Britain the past year with "Providence" capstans.

As a general thing, "John Bull" is not very favorably disposed to foreign-made goods in this line, and therefore his opinion in regard to same ought to carry considerable weight. John Bull usually knows a good thing when he sees it.—Manufacturers Record.

Hereafter in squadrons of United States war vessels more attention is to be given to signaling, that there may be, strange as it may appear, less signaling. It is necessary to devise some means by which communication may be maintained between ships of a fleet without exposing men on deck or at the masthead. The system which exhibits as little as possible to the hostile observer will be the best, but there is a question as to how such a system can be operated. It will fall to the lot of the commanders-in-chief of squadrons engaged in fleet maneuvers, therefore, to prepare some method which may be used in time of action, when it is impossible to carry on communication between ships as it is done in time of peace. Just how the desired result can be attained remains to be seen. It is likely many signals may be given by means of the steam whistle, on a previously arranged secret code, while other orders, such as those which call for movements of the ships, will be conveyed by the conduct of the flagship. The subject is one which has engaged much attention abroad.

OHIO FISHERY LAW.

The impression has gone out that the fishery law passed at the last session of the Ohio Legislature, prohibiting gill netting in less than fifty feet of water is a dead letter because of a typographical error. The engrossing clerk omitted the word "except" in engrossing the bill, which would make it appear that gill nets could be used in fifty feet of water or less. The secretary of state discovered the error and inserted the word, placing it in brackets to show that he had done so. Attorney General F. S. Monnett says the law is in no way affected by the word being enclosed in brackets, as it is and should be read as though the brackets were not there. It therefore appears that the enactment is all right and in full force.

OHIO WEATHER DATA.

The local forecast official at Cleveland has sent out the following data, covering a period of twenty-five years, during the months of October, and compiled from the Weather Bureau records:

TEMPERATURE.

Mean or normal temperature, 53°. The warmest month was that of 1879, with an average of 59°. The coldest month was that of 1895, with an average of 47°. The highest temperature was 87° on October 7, 1879. The lowest temperature was 24° on October 26, 1887. Average date on which first "killing" frost occurred in autumn, October 11. Average date on which last "killing" frost occurred in spring, May 1st.

PRECIPITATION (RAIN AND MELTED SNOW).

Average for the month, 2.87 inches. Average number of days with .01 of an inch or more, 13. The greatest monthly precipitation was 5.85 inches in 1890. The least monthly precipitation was 0.47 inches in 1886. The greatest amount of precipitation recorded in any 24 consecutive hours, was 2.45 inches on October 2, 1881. The greatest amount of snowfall recorded in any 24 consecutive hours (record extending to winter of 1884-5 only), was 15 inches on October 31, 1890.

CLOUDS AND WEATHER.

Average number of clear days, 8; partly cloudy days, 10; cloudy days, 13.

WIND.

The prevailing winds have been from the southeast. The highest velocity of the wind was 62 miles from the west, on October 11, 1894.

VISIBLE SUPPLY OF GRAIN.

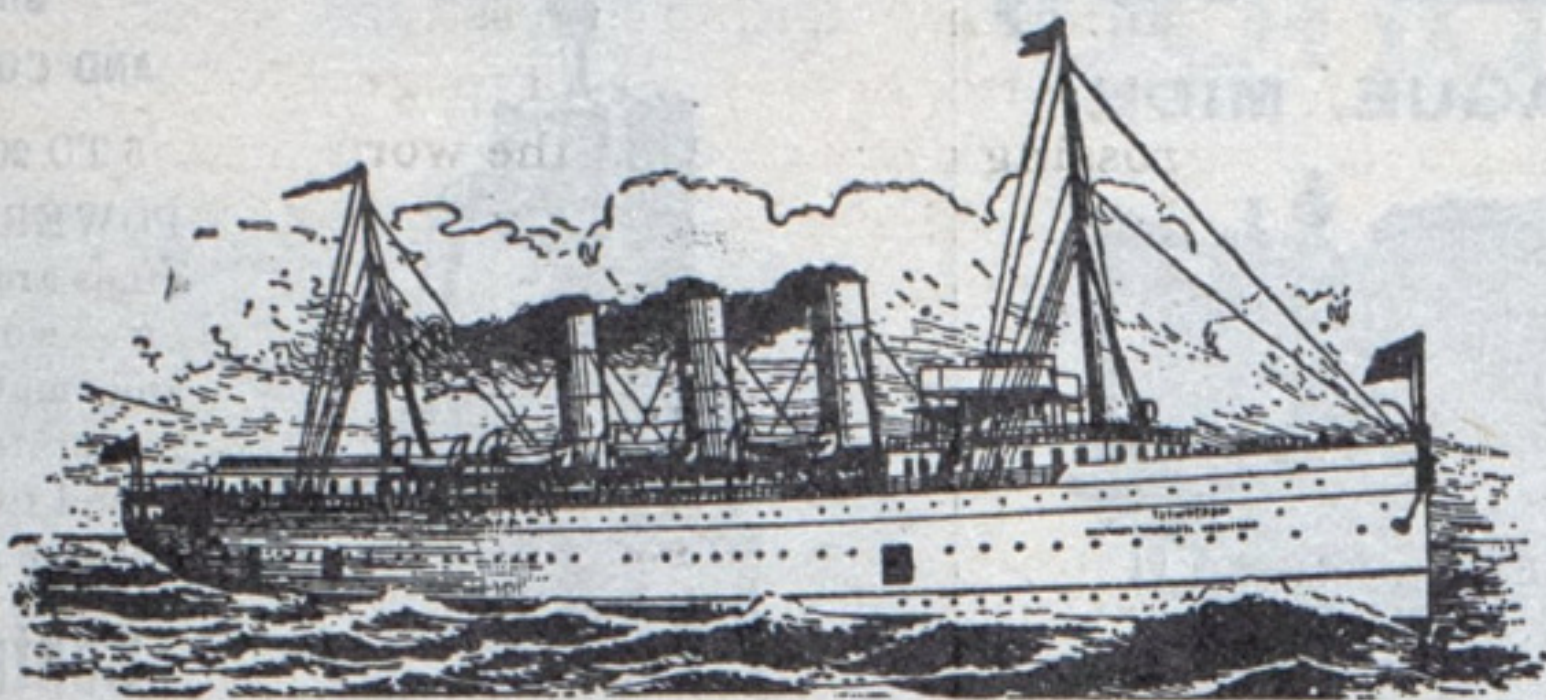
As compiled for THE MARINE RECORD by George F. Stone, Secretary Chicago Board of Trade, September 26, 1896:

CITIES WHERE STORED.	WHEAT. Bushels.	CORN. Bushels.	OATS. Bushels.	RYE. Bushels.	BARLEY. Bushels.
Albany.....	.....	25,000	85,000	.....	.....
Baltimore.....	1,000,000	1,346,000	496,000	73,000	.....
Boston.....	1,123,000	393,000	230,000	.....	.....
Buffalo.....	2,324,000	310,000	154,000	86,000	207,000
afloat.....	.....	.....	.....	.....	.....
Chicago.....	13,549,000	4,855,000	1,933,000	381,000	131,000
afloat.....	.....	.....	.....	.....	.....
Cincinnati.....	1,000	2,000	13,000	1,000	50,000
Detroit.....	414,000	9,000	12,000	29,000	.....
afloat.....	.....	.....	.....	.....	.....
Duluth and Superior	494,000	21,000	186,000	262,000	339,000
afloat.....	.....	.....	.....	.....	.....
Indianapolis.....	298,000	16,000	.....	.....	.....
Kansas City.....	543,000	20,000	89,000	6,000	.....
Milwaukee.....	409,000	3,000	.....	114,000	98,000
afloat.....	.....	.....	.....	.....	.....
Minneapolis.....	11,889,000	11,000	174,000	6,000	12,000
Montreal.....	458,000	27,000	228,000	5,000	26,000
New York.....	3,769,000	2,746,000	1,996,000	373,000	65,000
afloat.....	32,000	25,000	26,000	58,000	61,000
Oswego.....	38,000	10,000	.....	.....	21,000
Peoria.....	194,000	79,000	365,000	8,000	.....
Philadelphia.....	474,000	739,000	102,000	.....	.....
St. Louis.....	3,406,000	305,000	245,000	19,000	.....
afloat.....	33,000	82,000	.....	.....	.....
Toledo.....	656,000	50,000	387,000	70,000	.....
afloat.....	.....	.....	.....	.....	.....
Toronto.....	124,000	.....	65,000	.....	25,000
On Canal.....	816,000	33,000	906,000	223,000	268,000
On Lakes.....	2,202,000	1,853,000	1,191,000	253,000	207,000
On Mississippi.....	23,000	258,000	68,000	.....	.....
Grand Total.....	48,715,000	13,218,000	8,951,000	1,967,000	1,510,000
Corresponding date 1895.....	40,768,000	5,451,000	2,726,000	586,000	1,925,000

PROPOSALS.

U. S. ENGINEER OFFICE, Duluth, Minn., Sept. 20, 1896. Sealed proposals for rip rap embankment at Agate Bay (Two Harbors), Minn., will be received until noon, Oct. 20, 1896, and then publicly opened. Information given on application. CLINTON B. SEARS, Maj. Engrs. 39-42

GRAHAM'S RAPID FUELING DOCKS, DETROIT RIVER, FOOT 21st STREET.



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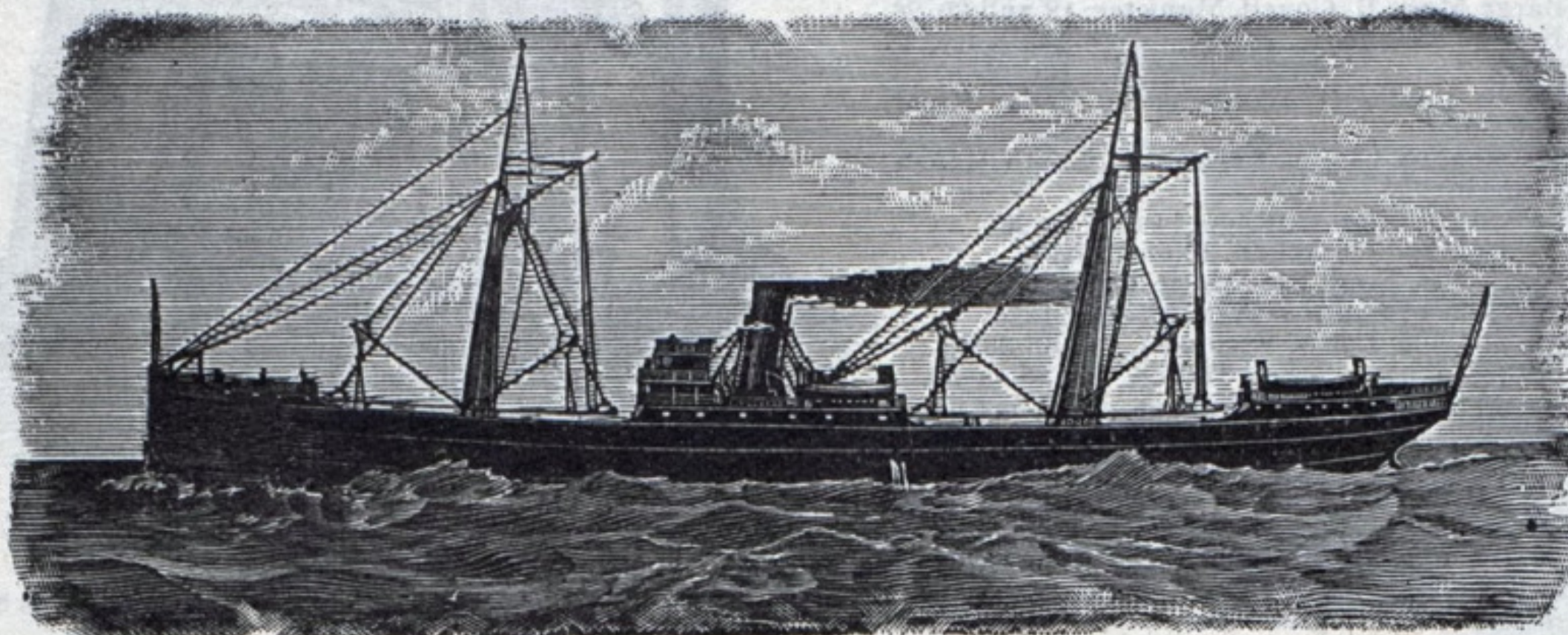
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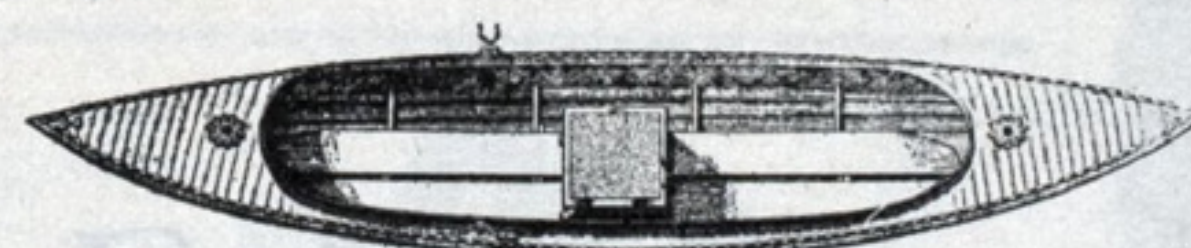
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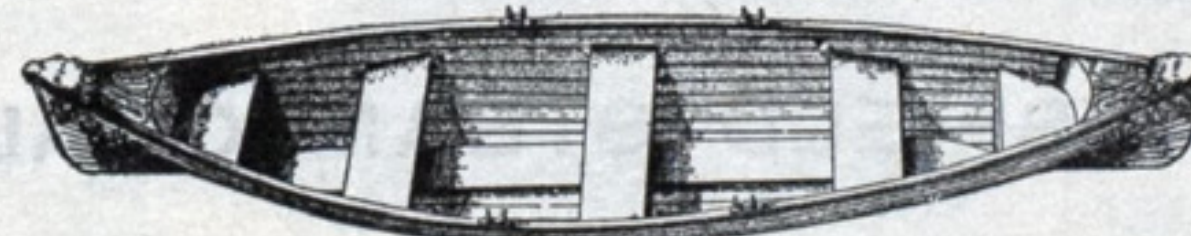
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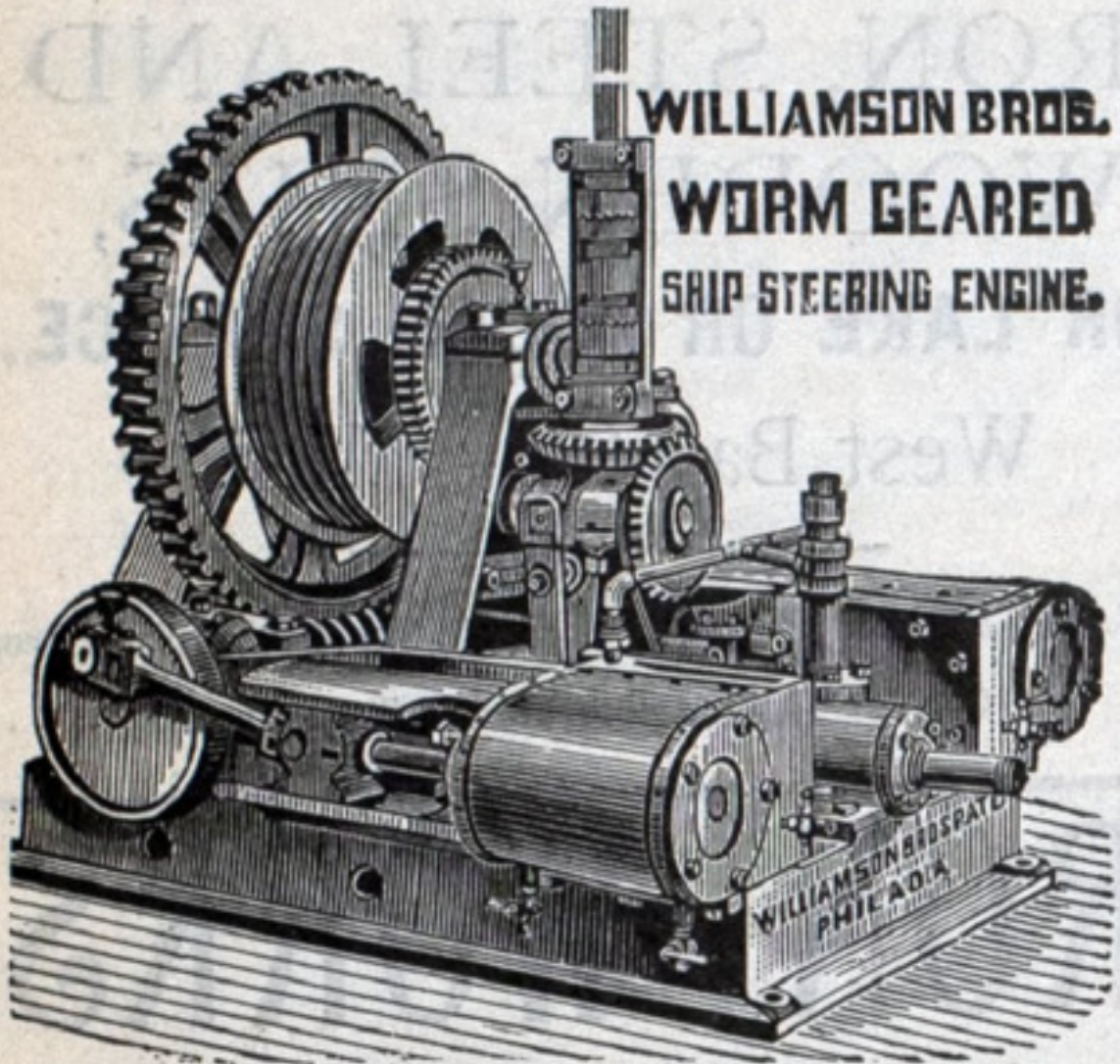
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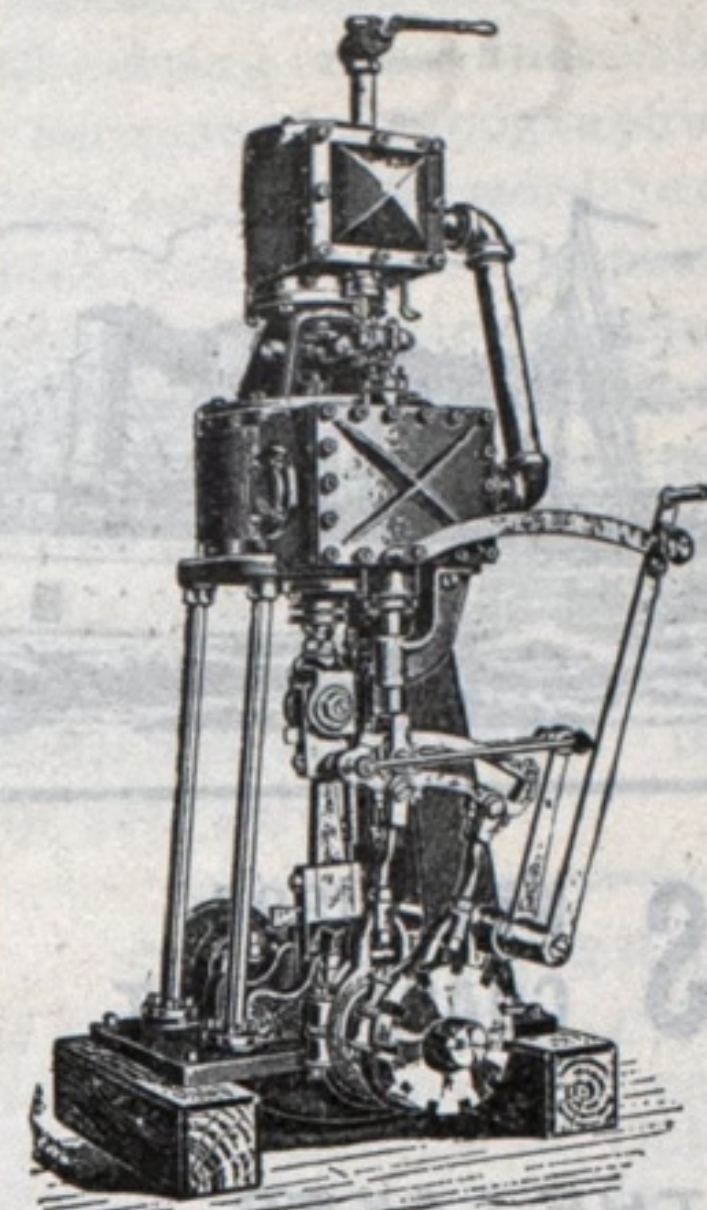
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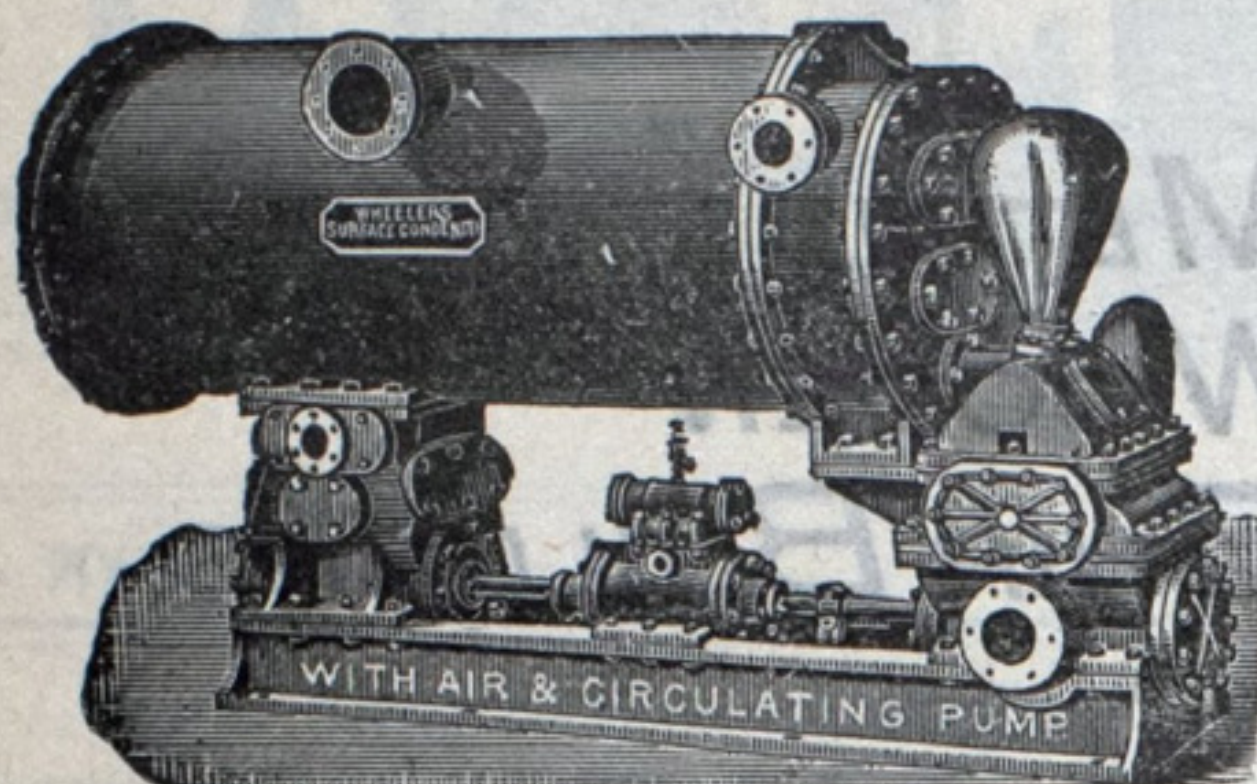
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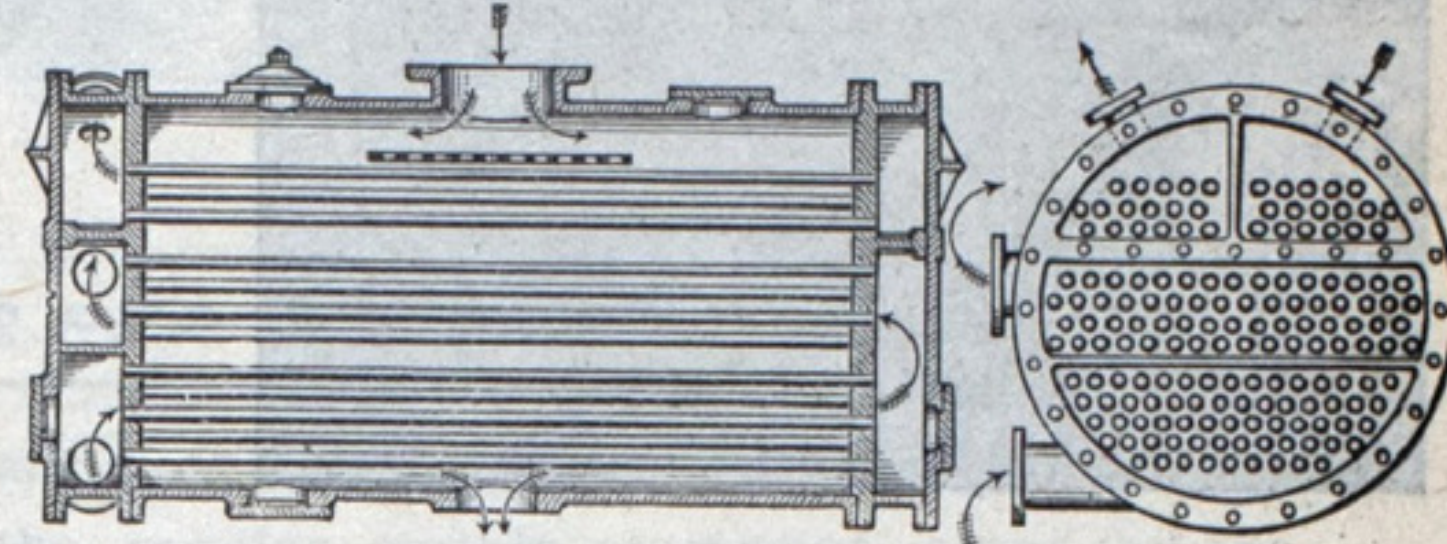
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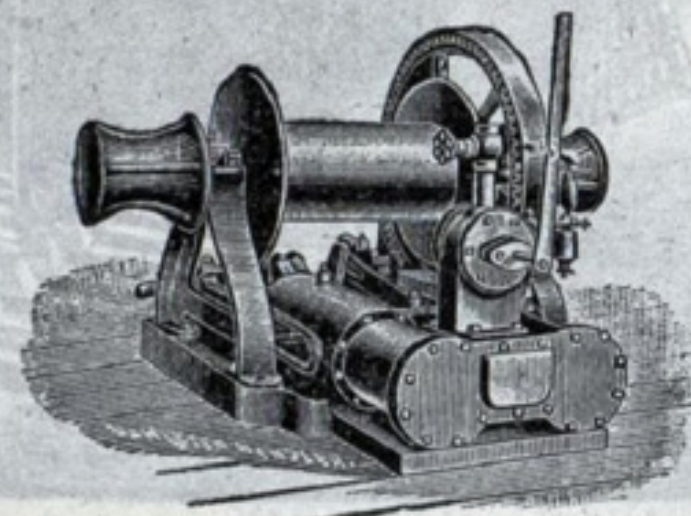
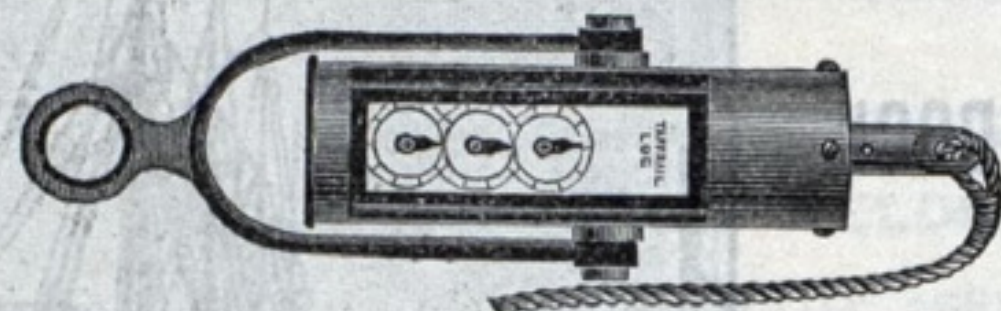


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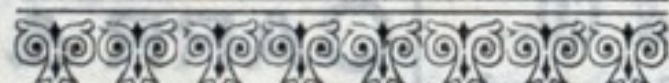
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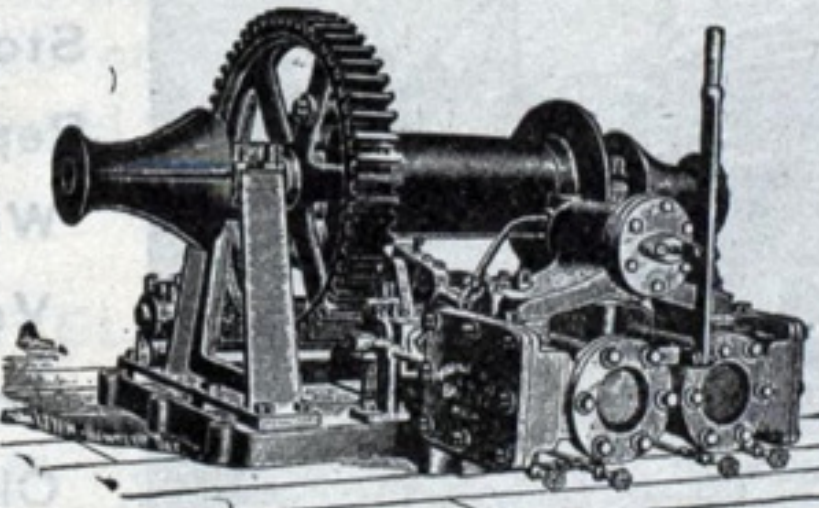
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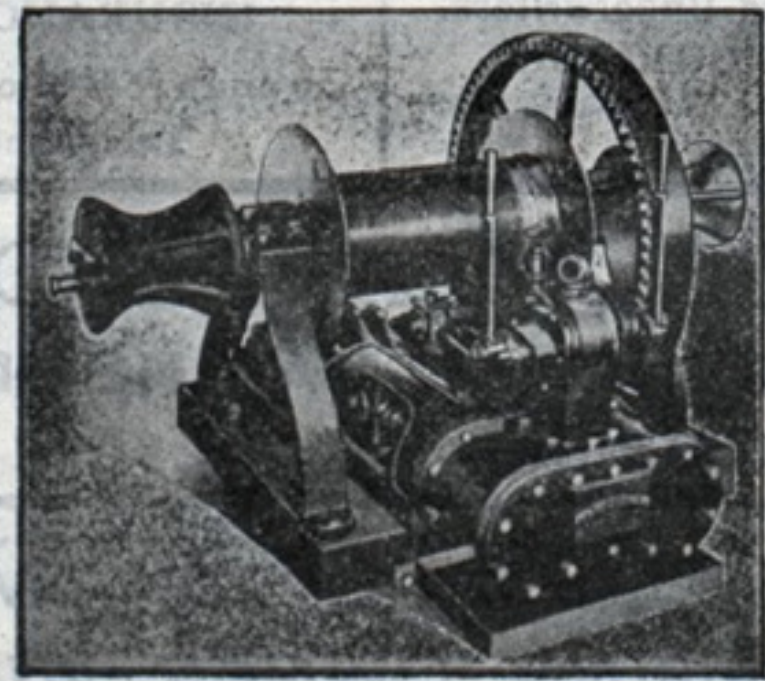


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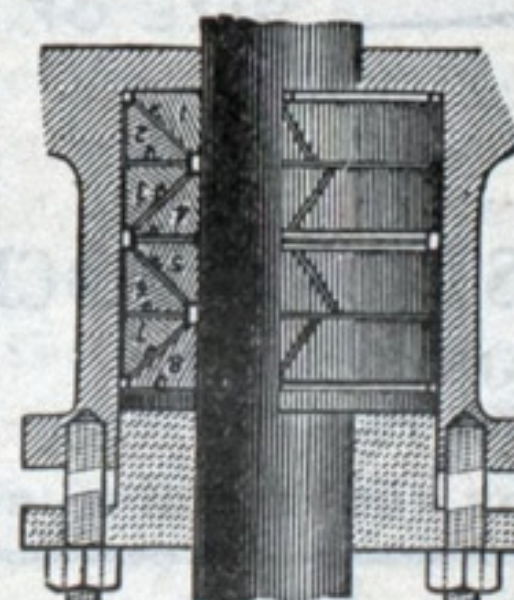
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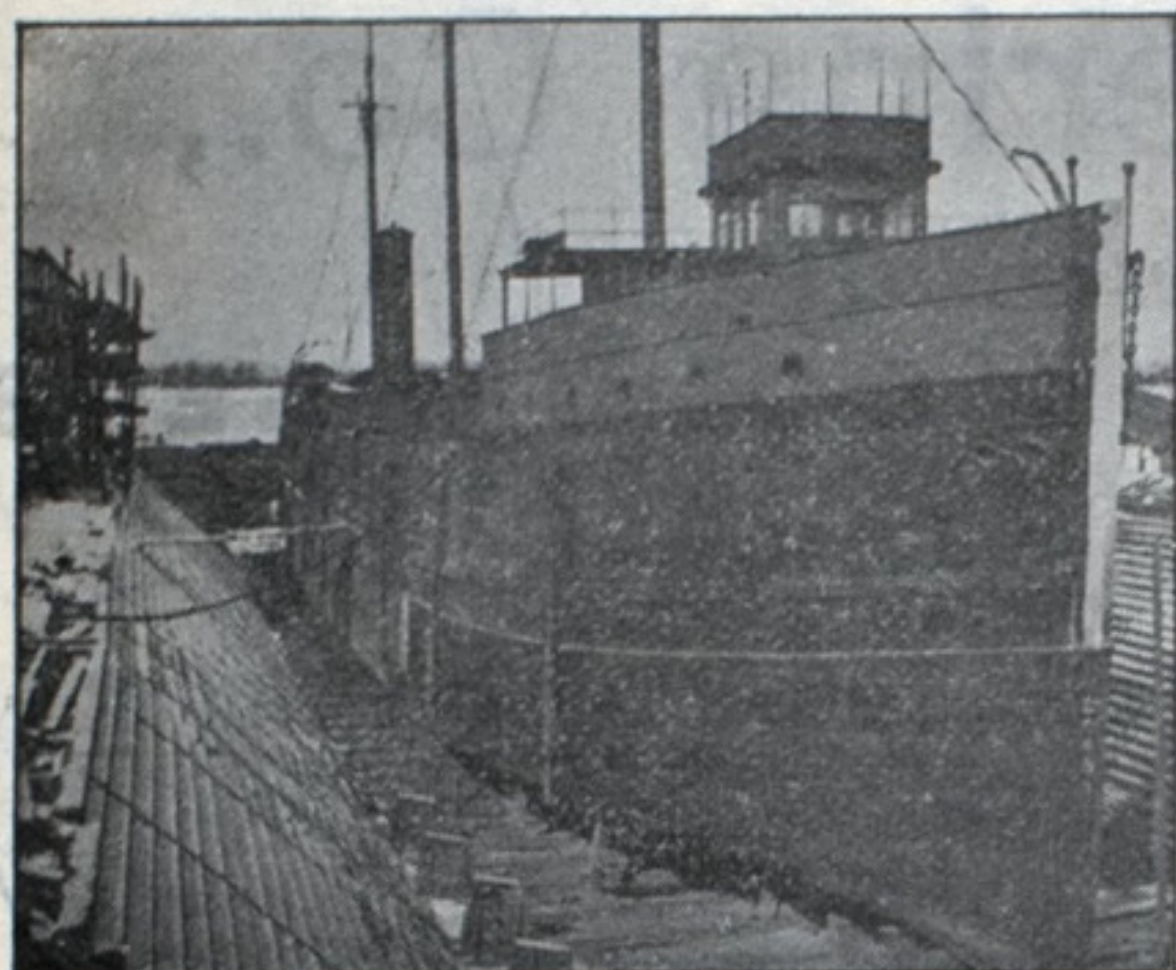
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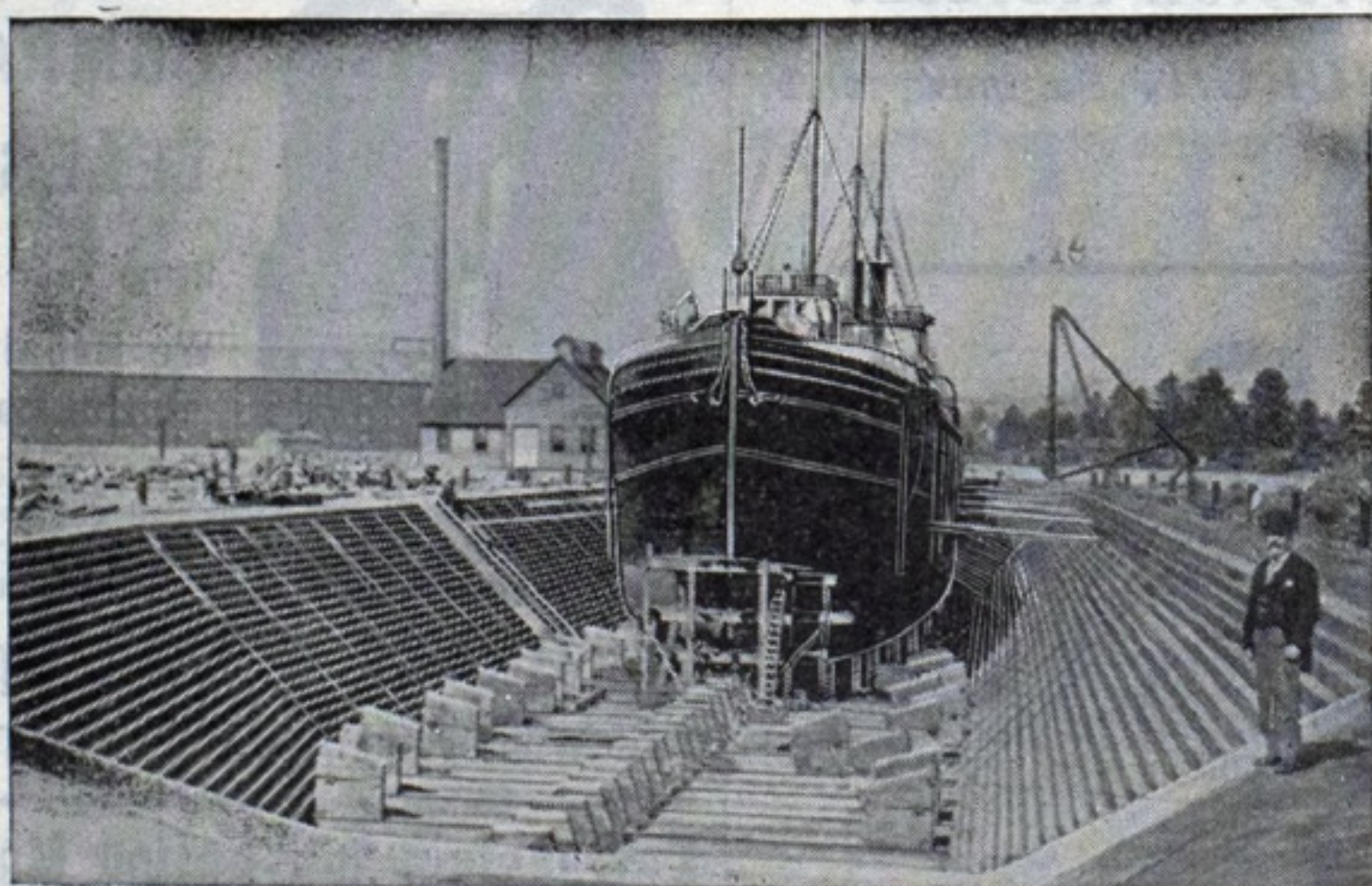
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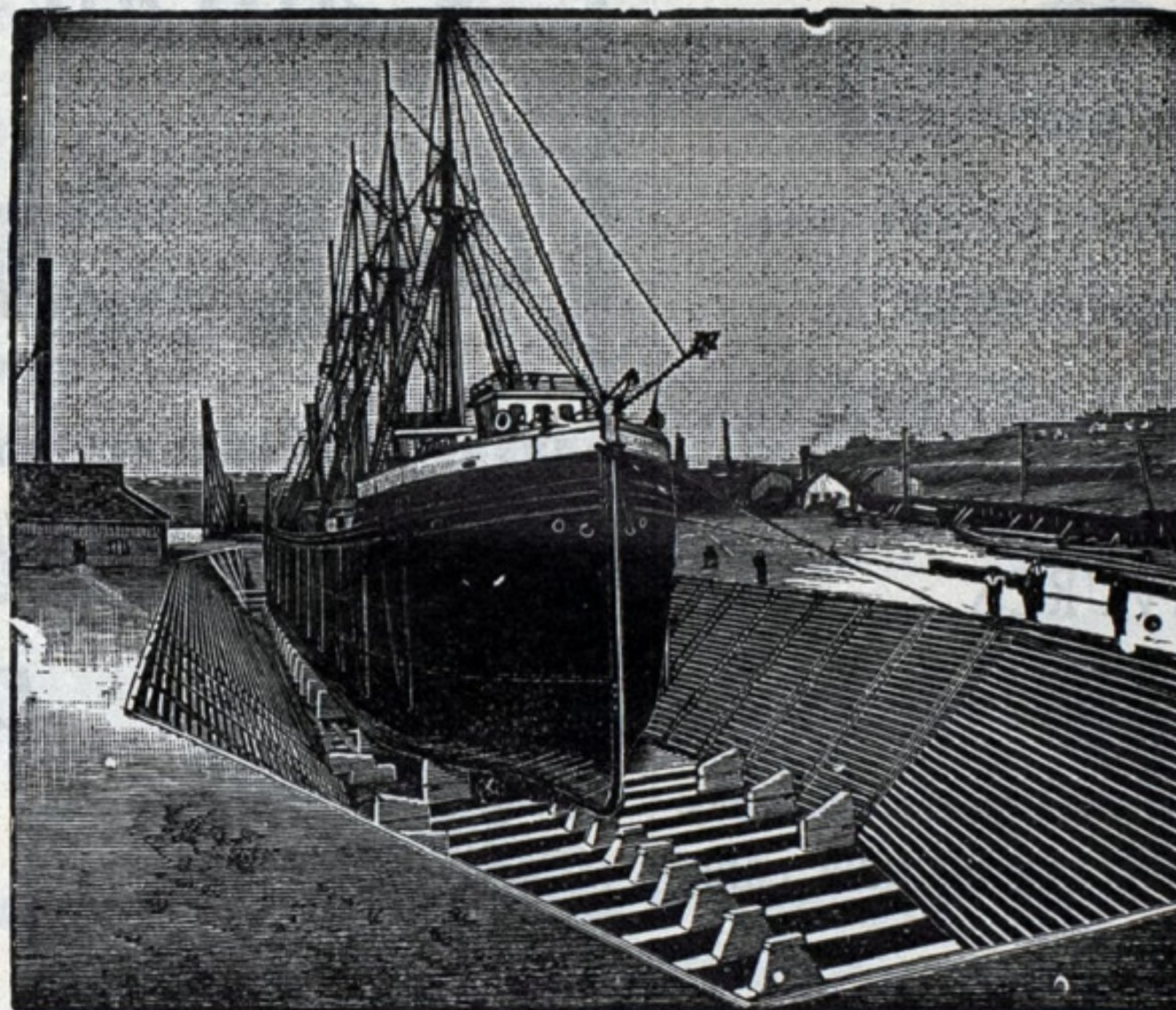
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